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PROFESSIONAL ETCHINGS.

BY C. A. KINGSBURY, M.D., D.D.S.

Emeritus Professor of Dental Histology, and Operative Dentistry in the Philadelphia Dental College.

ON the occasion of a recent visit to Europe with the special object of securing needed relaxation from the onerous duties of my profession, and enjoying healthful and pleasant rambles for a few months through the "British Isles;" I availed myself of the opportunity thus afforded, to gather some interesting facts here and there pertaining to dental practice, and to make myself more fully acquainted with the present status of the dental profession in the Old World. The result of my observations satisfied me that nearly all of the large cities of England, Ireland and Scotland, so far as regards numbers, are amply supplied with dentists. In many of the small rural towns may be found representatives of our profession, who combine with their dental practice the business of a druggist. In all such cases, where the time and labors are thus divided, a high standard of dental practice could not be expected. Yet there are many respectable and intelligent persons of this class to be found in sparsely populated districts, whose services in there capacity as dentists, may be regarded as important and valuable, in alleviating the suffering arising from diseased dental organs in their respective communities. There evidently exists, in the countries named, a want of due appreciation of the important functions of the Dental practitioner. As a general rule the common people do not pay nearly the same attention to their teeth as the same class in our country. As stated the cities are well supplied with dentists, most of them being native born. Among these are quite a number who are graduates of our dental colleges; the superior facilities afforded by our dental institutions—especially those of Philadelphia—drawing them here to complete their professional education. These graduates having received the advantages of our schools, and graduating with due honor, usually take high rank in their profession, and command the patronage and confidence of the better classes. In the large cities—especially in England—may also be found a few American dentists who have succeeded to large and lucrative practices. Recently the dentists of London have, from what is regarded in some quarters as a jealous and selfish motive, secured legislative and legal action, which prohibits the recognition of the diplomas of the Dental Colleges in the United States with only two exceptions. And these two exceptions, strange as it may appear, are in favor of colleges having a small number of students and few graduates. This action of the English dentists—making such an invidious, and unjust distinction in favor of two of our colleges having the smallest number of matriculates, can only be construed as an extreme, and uncalled-for measure of self protection, most unfriendly—to say the least—to the oldest and most successful Dental Colleges in the world. It is to be hoped that a measure so one-sided, and prejudicial may, upon due reflection, be speedily repealed. There are numerous graduates from our Dental Colleges now practicing in England, who reflect honor upon their native land and professional *confrères*, as well as upon their American *Alma Mater*. The writer was pleased to meet a number of his old pupils—graduates of the "Philadelphia Dental College,"—who have been eminently successful, and are enjoying enviable positions in their profession. American dentists, I am sure, fully appreciate the distinguished position, labors and merit of their professional brethren in the mother country, and are disposed to award to them their full mead of praise and honor. The cordial and most generous manner in which the American representatives to the late "Medical and Dental Congress," held in London, were received and entertained, fully demonstrated the fraternal sympathy existing between members of the same profession, though separated by three thousand miles of stormy seas. Are not our obligations mutual? We owe much as a profession to English dentists, and England in return owes much to American Dentistry. There are certain peculiar modes of practice, of which I would be glad to write at some length, but the limit of this paper forbids. In the operative department much work of a high type of excellence is being done at the present time. In gold fillings much more than formerly. There is, among a certain class, a marked emulation of the thorough and finished style of first-class American operators. Although amalgam and plastic, or white fillings predominate to a great extent, gold as a filling material, in the estimation of those who rank highest in the profession is the "*ne plus ultra*." For artificial dentures, teeth of American manufacture are largely used; also dental instruments, appliances, and various materials supplied by American manufacturers.

The number of dentists in London is "legion," and yet they all seem to live. Some of them live in opulence. For some operations the fees are higher than with us; for others lower.

The trip of a few hours takes you from the great, bustling, smoky city of London to Paris, the gay metropolis of France. To most tourists the change is a pleasant one. Fourteen years had elapsed since the writer was there. The Empire was, at that time, at the zenith of its power and glory. The Worlds Exposition was in session, and strangers, pleasure-seekers, and industrial representatives from all parts of the globe, poured within the walls of the city and crowded it to overflowing. Napoleon III., was the proud Emperor of France. His imperial popularitv and power, together with the pride, energy and wealth of the Empire, were taxed to the utmost to make the occasion a dazzling pageant for the entertainment of all Nations, and the gay and brilliant Metropolis the wonder of the world. Subsequently came the Franco-German war with its disastrous results. The emperor is defeated and made a prisoner of war. Paris is besieged and captured by the victorious Germans. What a change! From the throne of a mighty Empire, to the cell of a gloomy prison! Such oft is the fortune of wars; and the fate of those who rashly wage them for purposes of self-exaltation! What a lesson on the uncertainity of human events, and the delusive and transient nature of Earthly power and glory! But this vein of thought so natural at the time of my visit—these reflections suggested by great events that had transpired during the lapse of a few years, changing the destiny of the nation—must be no longer indulged. I was glad to find that Paris, instead of being demolished, exhibited on every side evidences of the greatest prosperity; and in its improvements, splendor, and gayety, seemed to fully equal if not surpass imperial Paris of former years.

During my short stay my time was fully occupied, and I will record a few things that may possibly interest some one in the profession.

There are few countries in the world where more dentists may be found than in France, and Paris is a regular dental bee-hive. Not only do French dentists in great numbers practice here, but American, English, German, and Italian members of the profession, have come to this populous, prosperous, and gay metropolis, as a promising field for enterprise and success in business. The natural effect of so much competition is, that the remuneration for the dental practitioner is, as a rule, small indeed. Many dentists consider one dollar (5 francs) a sufficient fee for filling and treating a tooth.

Ten francs is the average fee, and 20 francs, ($4) is taken by most of the leading men. I am talking of the average respectable dentist. Several eminent French, and foreign dentists receive five, ten, and sometimes fifteen dollars. But I have been told that they obtain these fees rarely, and may see a patient six or seven times, treat a tooth, and fill with gold for four dollars. This statement does not include a few men who enjoy a European, and even a cosmopolitan reputation, and who receive exceptional fees sometimes fabulous. These are, on an average, as well paid in France as the best dentists are in this country for operating, and perhaps better for mechanical work. I can say but little touching dentistry in France, that may be new, as our art is tending to become cosmopolitan. I have noticed that soft gold is used to a large extent in the form of cylinders by the best operators. Amalgam and the white fillings (Gutta Percha and Osteo Plastic) are more used than with us.

Compared with England, dentists use more white fillings; and the dentists in England more amalgam. For mechanical dentistry gold is used to a large extent; also hard rubber by ordinary dentists. Celluloid is very rarely employed. Ivory is still used as a base by some dentists, in rare cases. For instance, patients who have worn hippopotamus dentures for twenty or thirty years, still insist on using them in preference to porcelain teeth. These ivory sets are beautifully carved and are quite artistic; but, as I have stated, are now only used for old patients, and are becoming a lost art, unfortunately; for no branch of mechanical dentistry required so much artistic skill as carving these ivory sets. Spiral springs are still worn in very flat, edentulous mouths. But these are also becoming unfashionable, although some dentists claim that in certain rare cases, for old patients with very sensitive and flat mouths, springs offer an amount of stability which could not be otherwise obtained. Springs when used are adapted to suction plates made on models cast from plaster impressions and carefully articulated dentures. Gum teeth are but little used in France. Healthy roots are filled and allowed to remain in the mouth, particularly when teeth are also standing; the latter are clasped and the dentures are usually in such cases gold plate.

Dental politics in France furnish a somewhat interesting subject for study. The *élite* of the profession are striving to obtain dental laws somewhat like the American dental laws. As may be expected whenever a good and wise suggestion is proposed, a warm opposition is made to it. Among those in favor of dental legislation (members of the Odontological Society of France), the names of Drs. Audrieu, Colignon, Brasseur, Gaillard and others, are well-known to us by reputation. These French dentists have called to their councils and elected members of the society several of our graduates, Victor du Bouchet, Charles Kingsley and Mordaunt Stevens, M.D., D.D.S., who are well-known to us, and some of them are graduates of the "Philadelphia Dental College." Naturally these gentlemen strive in every way to show their desire to help their French *confrères*; making it a rule, however, to avoid giving advice—but simply information touching the working of dental legislation in America. Being entirely unprejudiced I looked over the names of the opposition society, but none are known to me with the exception of one or two noted adventurers whose staring door-plates, and names in most conspicuous letters on their balconies, force themselves on the notice of every one that walks the streets of Paris. I must say a word or two touching the official organ of the Odontological Society of France. The print is called the "Gazette Odontologique." The editors have thus far kept in the back-ground and have always endeavored to keep up the tone of their journal.

They have been rewarded by a very good circulation, which, although it cannot be compared to some of our dental journals, makes the "Gazette Odontologique" by far the best dental publication on the Continent. Perhaps one of the best evidences of progress which our professional brethern in Paris have made, consists in the institution of monthly meetings of the Odontological Society of France. I regret that I was unable to accept an invitation to attend, but have been told the discussions are of an interesting character. The meetings take place on the first Tuesday of each month (August and September excepted), and American graduates are cordially invited to be present; the only formality consisting in sending their cards to the foreign secretary, Dr. Mordaunt Stevens, 42 rue Cambon, Paris, who will give all information, and introduce them to the president and members of the society.

DENTAL CARIES.

BY DR. C. N. PEIRCE,

Professor of Dental Physiology, Dental Pathology and Operative Dentistry in Pennsylvania College of Dental Surgery.

In considering the abnormal conditions of the hard tissues of the teeth, we have to do with that which indirectly as well as directly affects the integrity of these structures; also with conditions which produce a modifying influence upon the health and vitality of the more vascular parts.

The theories which have at different periods been advanced respecting the cause of death and molecular decomposition, designated dental caries, have widely varied, and though each has received enthusiastic support, no one has seemed sufficiently complete in itself to have been accepted as a satisfactory explanation of this pathological phenomenon. The chemical theory, which at one time was held almost to the exclusion of others, was based upon the supposition that the malady was wholly due to chemical agents, acids especially, acting upon the inorganic part of the tooth; from the unsatisfactory explanation of its origin and influence it was found quite inadequate to satisfy appearances and results which were sometimes manifested. Evidence of influences other than local developed the theory, that vital, systemic, or constitutional conditions were prevalent, and modified the integrity of tooth structure by breaking up the continuity which existed between the organic and inorganic parts of the tooth, and that this disorganization was usually preceded by an exalted sensibility of the hard tissues.

Next evolved was the chemico-vital theory—a predisposing and an exciting cause, vices of conformation, deficiency in the quantity and quality of enamel and dentine, due to imperfect nutrition during the period of development, represented by pits in the enamel and interglobular spaces in the dentine; the sequence of a vital and systemic condition, while vitiated secretions, the result of either local or systemic conditions acting directly upon the external surface of the tooth, were deemed an exciting and local cause.

Low forms of life found in the oral cavity constitute the parasitic theory. So universal and constant have Leptothrix and other organisms been discovered in the secretions of the mouth, upon the teeth, and in cavities of decay, that their mycelium and minute bodies are supposed by burrowing into the dental tissues to be largely the cause of dental caries. This theory has been earnestly advocated, but not with such perspicuity as to become generally accepted, though favorably regarded by many.

The electrical theory, based upon the assumption that the different tissues of the teeth are at times abnormally charged with negative and positive electricity and hence are broken down by this seeming antagonism, has found numerous and earnest advocates.

The foregoing theories have all in turn found supporters, and by virtue of recognized conditions some of them are more than plausible; but no one of them indicates a well defined cause which satisfactorily explains the malady in all its aberrations.

Important modifying influences there are, and probably, many not yet recognized, which doubtless impress themselves upon the integrity and durability of the hard tissues of the teeth; of such we may mention those resulting from foods, habitat, occupation, mental and physical depreciation or exhaustion, —periods of gestation and lactation, age, hereditary influence—these all speak in unmistakable language of the multiplicity of conditions which are either continuously or remittingly tending to modify the resisting power of the teeth, rendering them an easy prey to dental caries. These modifying and predisposing causes may all be summed up in the statement—that certain physical, mental, moral, dietetic, hygienic and hereditary conditions are contributing, both directly and indirectly, to the prevalence of this disease. The average student and dental practitioner quite naturally inquires,—"Why bother about the causes? The results are patent; let us learn how to treat those—excavate, file and plug to the best of our ability, enough for the life of one man." True, while the evil goes on unabated and unrestricted there will certainly be work enough for all who do their work well—but is that the aim and end of dentistry? Tooth carpenters indeed!

Dental Caries is characterized by a progressive and often continuous disintegration or softening from the external surface to the interior of the crown, until a larger or smaller portion, or the whole of the organ, has gradually disappeared. In the intelligent and successful treatment of this disease, the practitioner certainly needs to comprehend, as a result of his study and investigation, the anatomical and histological structure of the tooth, as well as a somewhat accurate idea of its chemical composition, and the predispositions of these; that is, how in their morphology, either normal or abnormal, the teeth are subjected to or protected from assaults from without. He needs to study and appreciate, especially the secretions in which they are constantly bathed, their source, or origin, and the modifications to which they are liable, and the influence when either normal or abnormal they are capable of exerting; also the various and numerous influences tending to modify the progress of caries, or induce its temporary or permanent suspension, the vitality of the tooth, the extent of its recuperative power, and the protection this nutritional effort offers. Upon the principles involved in the prophylactic, manipulative, therapeutic and surgical treatment, the successful practitioner of dentistry needs all the light he can procure —nay, more.

PULP NODULES AND THEIR TREATMENT.

BY H. L. GILMOUR, D. D. S., PHILAD'A.

In writing upon a subject which seems surrounded with so much obscurity, both as to cause and diagnosis, I feel to shrink more from the possible criticisms of superficial readers and thinkers, than a sense of the magnitude of what is before me. I propose making reference only to cases in practice which it has been my opportunity to treat, leaving microscopy and deeper scientific research for those less accustomed to the ache and cure contact of every-day practice, but infinitely better able to delve into pulp *minutiæ* and territories still unexplored. The process of pulp calcification has been known for many years, and yet our knowledge with regard to it still remains vague.

My reference, however, is to what is best known as pulp stones or nodules, existing in the pulp tissue, independent of connection with the walls of the pulp chamber. These nodules, according to my own observation, vary in size from grains as fine as sand—more easily felt by pressure between the finger and thumb than seen by the eye—to large irregular shaped nodes, entirely filling the pulp cavity, and conforming to its shape. The dislodgment of these bodies is frequently attained with considerable difficulty. I have found a spear-shaped point most effective in breaking up the mosaic, by simply insinuating the point between the nodules and giving it a twist, when they may be easily removed by a stout nerve hook.

In the year just closed I had several cases, all in upper molars, and with the exception of one case, in the teeth of gentlemen ranging from forty to fifty-five years of age, of nervo-sanguine temperaments, grand physical constructions, looking as if sympathy could never be evoked from any source.

The exception mentioned was in the mouth of a lady, and the tooth the first one I can recall where the cavity of decay was deep enough to expose the pulp; this exposure occurred at the *mesio-buccal* horn, the cavity extending under the gum. I made an arsenical application, seeing her, by appointment, the following day to renew the application; at that time I exposed the pulp over the palatal canal, and there came in contact with as large a nodule as I have in my collection. It was easily removed, with two-thirds of the palatal pulp adhering to it; after picking out four nodules, the patient reminded me of removing five or six nodules three years ago from the corresponding tooth on the other side.

There being no necessity for another arsenical application, I dressed the canals with acetate of morphia paste, filling the outside cavity with pellets of cotton and sandarach varnish as is usual in pulp cavity of operations, and arranged for filling the tooth in a week.

Another class of teeth in which pulp nodules exist, are those without a sign of decay, erosion, or outside manifestation of trouble; neither soreness on percussion, thermal changes, or any of the usual diagnostic signs; but a sensitiveness peculiar to the scratch of the finger-nail on the neck of the tooth, not corresponding in severity to the same kind of scratch above or below the edge of enamel (as the case may be) in upper or lower cuspids and bi-cuspids; so that, in these cases, symptoms and comparative signs are our best and only guides in trying to arrive at a diagnosis, and just here is where caution, courage, and capability go hand in hand with the dental engine, and a sharp spear-pointed bit to gain access to the citadel of pain, and route the intruding foreigner. During the past year, instead of drilling into the crowns of this kind of teeth, making three, four or five arsenical applications to destroy the pulp, I drill a small hole at the edge of the gum or where judgment would direct, so as to enter on the *pulp side* of the nodules; and one application made in this way is as efficient for the purpose intended as five or six entering the crown; the opening is easily stopped, with no possibility of displacement by attrition, until the next appointment for finishing, if possible, the operation.

COHESIVE GOLD.

BY WM. C. HEAD, D.D.S., PHILAD'A.

I THINK the true distinction between soft and cohesive gold foil is not generally understood. Gold foil is said to become harsh or hard by being annealed, when, in fact, annealing is the very process employed to soften and render malleable an ingot of the same metal. The foil, also, is rendered softer by the annealing process, which takes place when heated to redness over the spirit lamp. It only seems harsh under the plugger, when it has been rolled into a rope, made into pellets, or prepared in any mode by which cells or chambers have been formed; the walls of which have to be broken down and their surfaces slipped past each other in the condensing process. The slipping is resisted by the cohering surfaces which have become partially welded by contact.

If No. 30 or heavier foils are used, or the lighter ones folded into mats and worked perfectly *flat*, without hillocks or lumps, the most cohesive foil will be found sufficiently plastic to make serviceable fillings.

A narrow, thin-edged plugger—something like a screw-driver or cold-chisel—is the most effective in spreading the gold against the cavity walls, as the particles of the mass can be moved in any direction laterally by its wedging power. A bar or ingot of gold can be stretched longitudinally or laterally at the will of the workman, by properly directed blows given with the *pane* of the hammer, and the wedge-shaped plugger acts in a precisely similar way. The filling may be considered as a succession of ingots or bars welded together.

Deeply serrated pluggers are unsuitable for working cohesive gold, as they create the very roughness of gold surface which it is desirable to avoid. When a blacksmith welds two pieces of iron together, he does not use a serrated hammer; and the cohesion of gold under pressure is only *cold-welding*. The deep serrations produce an interlacing or entangling of the foil surfaces, which is useful in making tinfoil fillings, as tin cannot be welded; but this interlacing of the gold is often mistaken for a welding, to the great discomfiture of the operator, whose hour's work is rendered useless by an unsuspected flaw.

Serrations on plugging instruments are of no use in working gold, except to prevent those slips so disagreeable to both operator and patient.

In building crowns or cusps, use the wedge-shaped plugger till the *anchorage* is complete and the cavity is filled, the rest of the operation can be more thoroughly and rapidly completed with a perfectly smooth instrument. If the end of the plugger is rubbed upon an Arkansas stone, held at right angles with the longitudinal axis of the instrument, the corners will be found sharp enough to prevent all slips—reasonable care being exercised.

IMPRESSIONS.

BY WM. R. HALL.

As a good impression is of the first importance in making a set of teeth, it is necessary to have some knowledge of the materials used, and skill in using them; any material will fail if improperly used. Some who use wax exclusively, condemn plaster; others condemn wax and modeling compound, and use nothing but plaster. I prefer to have all three on hand to select from: the mucous membrane being frequently so soft that plaster mixed very thin is the only material that gives me the best results; where the gum is firm the plaster should be mixed somewhat thicker.

For an upper impression, where there are no teeth to interfere, select a tray large enough to allow of a quarter inch space outside of the gum; fill the tray with warm wax; heat the tray over a spirit lamp, so that the wax will adhere to it; introduce into the mouth, and press firmly to the gum: remove from the mouth and chill the wax in cold water; cut out with a warmed knife about one-half of the thickness of wax, leaving the extreme back part untouched,—this will prevent the plaster from running down on the soft palate; score with a knife what is left in the tray, it is now ready for the plaster; which must be mixed with salted water, moderately thick. Before placing in the mouth, apply with the forefinger a small portion of plaster to the highest part of arch, which will prevent air bubbles: now introduce the tray with plaster; pressing the back part up firmly, gradually bringing up the front part, lifting up the lip at the same time: when the tray is in position, let the lip fall over the plaster: after remaining long enough to set, remove and let dry in the air for half hour: then varnish with a solution of shellac: after the varnish is dry, oil with sperm oil; then place the impression in water, and let remain until the air bubbles are all out; before pouring in the plaster, blow out the water, if any remain; the plaster can then be poured with a certainty of filling every crevice.

To separate the impression from the cast, place in water warm enough to soften the wax; the tray and wax can then be removed, and the plaster picked away carefully so as not to injure the cast. This plan of plaster and wax for impressions is indispensable where there are teeth in the mouth, as it allows of the plaster breaking in such manner as to permit the easy removal of the impression.

The pieces, if not too small, can be replaced in the wax; thus forming a more perfect impression than by any other method. It requires considerable care to remove the small pieces of plaster remaining between and around the teeth, but it can be done with plyers and careful handling.

A tray with perpendicular rim should be used where there are a number of teeth: if there be three or four teeth with denuded necks, it is better to cut holes in the tray for them to pass through.

IN MEMORIAM.

MARSHALL H. WEBB, D.D.S.

Died January 1*st*, 1883. *Aged* 38 *years*.

The bells that so lately rang in the New Year also tolled the death-knell of one of the most valued members of the dental profession.

In the prime of a life that had been most busily and usefully spent, Dr. Webb has been called away at a time when there was every reasonable expectation of his living to continue and still further develop his great life-work.

Still, short as was his life, he had lived long enough to make for himself a name that is known not only throughout the length and breadth of his own, but in other lands.

Through his inventions, his writings, his teachings and his operations, he was perhaps as widely and as favorably known as any member of his profession. The benefits that he has thus conferred upon us have made us all his debtors, and his influence will long live to encourage and stimulate those who come after him.

Beginning his professional life under circumstances that would have disheartened a spirit less brave than his, he struggled manfully on, overcoming them one by one, until from the humble position in which he began, he rose by his own efforts, aided by indomitable perseverance and a laudable ambition, to the very front rank of his profession.

Early in life he set up for himself a high ideal, and never rested until he had attained it. As an operator the world has perhaps never seen his superior and indeed very few equals. His cultivated taste, artistic eye and delicate hand enabled him to perform operations that have long been the admiration of the profession and have drawn to him from far and near practitioners who wished to learn the secret of his power and profit by his instructions.

Enthusiastic himself to the highest degree, he had the wonderful power, possessed by few, of inspiring the same enthusiasm in others, and his worth as a private teacher is best attested by the fact that all of the many students who have gone out from his office have excelled in his special line of work. No one ever loved and honored his profession more than he, and no one ever more willingly made sacrifices for it. So great indeed were these sacrifices, and so forgetful of self was he in the making of them, that his life was unwittingly sacrificed thereby.

By nature most sympathetic and kind-hearted, his unwritten history is full of deeds of kindness done to any and every one who needed his help. He leaves a family to mourn his early death, but with their grief will be mingled the sorrow of many professional hearts that will cherish the memory of one whose virtues were many and whose faults were few.

S. H. G.

[Sad as the death of Dr. Webb might have been under any circumstances, it is rendered more so by the fact that he leaves a wife and three children entirely unprovided for. We are happy to state, however, that a generous and merited project is on foot to raise a testimonial fund for his bereaved family.

By solicitation, Dr. J. W. White, editor of the *Dental Cosmos*, has consented to act as treasurer, and will be glad to receive and acknowledge all contributions to the fund. Let every dentist who reads a notice of his death, dedicate one good gold filling to Dr. Webb's memory, and contribute the fee he receives for it to the support of a family who might not have needed it if Dr. Webb had been less disinterested in his labors.

"I expect to pass through this world but once. Any good thing, therefore, that I can do, any kindness that I can show to any fellow-being, let me do it *now*. Let me not defer it or neglect it, *for I shall not pass this way again*."—Ed.]

* * *

—To prevent nausea when taking impressions let the patient rinse the mouth thoroughly with camphor and water; five drops of spirits of camphor to a wine-glass of water is sufficient in most cases.

—Legislative Logic. In Maine they have a law that no medical student shall be allowed to graduate in medicine who has not had regular practice in the dissecting room. Then a law was passed that no bodies, but those of executed criminals should be used as dissecting material, and then they abolished capital punishment and adjourned.—*Independent Practitioner.*

The Dental Practitioner

PHILADELPHIA, JANUARY, 1883.

The Dental Practitioner takes its place in the ranks of the many dental journals, feeling that it is in good company.

We ask of the "Veterans" kindly consideration for the "Raw Recruit," promising our best efforts to make it worthy. From the dental profession we ask support, both in contributions to its pages and to its subscription list. A number of well known members of the profession have given us their encouragement by promising communications for future numbers; several interesting articles being all ready on hand for our next issue.

The editorial department will be conducted,—not in the interest of any particular college, society, or manufacturing establishment;—but *in the interest of the dental profession*, and all communication tending to further that object will be thankfully received.

It is our intention to make the Dental Practitioner eminently *practical*, and for this purpose we solicit from the profession at large an account of interesting and instructive incidents of practice, which we shall be happy to record, knowing that such articles are eagerly read by the practical dentist.

By our own efforts and the support of our patrons, we hope with every issue to do good to each one of our readers, and to give to the dental profession another first class dental journal.

The Dental Practitioner will be published about the 15th of every month; and while its first numbers may be small, they will contain as much reading matter in proportion to the subscription price as any other journal. We propose to add to its pages from time to time, until it is as large as the largest, and as good as the best.

Those wishing to subscribe will find a prepared blank for the purpose in the present number.

Subscriptions and all business communications should be sent to Gideon Sibley, corner of 13th and Filbert streets, Philadelphia, Pa.

Articles for publication to be sent to the editor, 1415 Walnut street, Philadelphia, Pa.

THE BORDER LANDS OF MEDICINE AND DENTISTRY.

Cases are frequently presented to members of each of these professions, in the treatment of which the question,—How far does the province of the physician extend, or where does that of the dentist commence, must often present itself to the conscientious practitioner.

While these callings are in many ways separate and distinct, it is impossible to draw any arbitrary boundary line between them; and members of each should be so informed with regard to the territory of the other, that either could treat intelligently cases occurring along this middle ground.

It is a fact, long recognized by most dentists and by many physicians, that the information imparted by medical schools upon diseases of the mouth and especially the teeth is, to say the least, very meagre.

Special lectures are given upon diseases of the eye and ear, while the teeth and their diseases are almost entirely overlooked. Hence it is that many otherwise well educated physicians fail to appreciate the extent of the influence which a diseased condition of the teeth, or interrupted dentition may exert upon all those parts supplied by the fifth pair of nerves, or upon the system at large; and that the dentist is not unfrequently consulted by, and able to give relief to, patients after being treated for months by physicians who, failing to recognize that some lesion of the dental organs might be a possible factor in *causing* the abnormal condition, have been unable to correct it.

The nervous association of the teeth with the eye and ear is intimate, and the history of many cases of trouble in those organs proves conclusively that dental lesions may not only aggravate such trouble, but that they are frequently the primary cause.

There is also abundant evidence that an irritation originating in the dental tissues or their surroundings may extend throughout the system, and find pronounced expression in some remote organ; while an abnormal systemic condition, or an irritation originating in parts remote from the mouth may find as pronounced expression in the oral cavity. These facts are too often overlooked by physicians and dentists alike; causing them to treat blindly, and without success lesions which quickly disappear when once their reflex or sympathetic nervous relations are recognized.

The pain resulting from the various diseased conditions of the teeth and their immediate surroundings is known by the universal name of "toothache," for which the physician (especially the country practitioner) has a universal remedy—the forceps.

Thousands of teeth are every week extracted simply to secure present relief, and without a thought of the future discomfort their loss entails. How much better if our physician had been able to recognize the *cause* of the toothache and remove *that* instead of the tooth, sending his patient away with equal comfort and much more satisfaction until he could have the tooth properly filled and made serviceable perhaps for years.

It is also a fact that the physician has a far better opportunity for correcting the primary cause of dental decay (defective tooth structure) than the dentist. He is consulted by the wife during pregnancy, he is present at the birth of her child; according to his directions that child is cared for and *fed*, and all through its development into manhood or womanhood, it is more or less under his care. How easy for him to direct such general treatment and such a diet both for mother and child as shall result in a vigorous organization, with sound, enduring teeth. This might not be accomplished in one generation or in two; but it is a step in the right direction and woald at least tend to check that hereditary tendency to degenerate so marked in human teeth.

That the character of the teeth may be influenced during fetal life admits of no contradiction. "While the child is in its mother's womb, it is liable to be affected favorably or injuriously by all the causes which affect her in the one way or in the other." "From the moment of conception until birth the influences of the mother are constant," and it is within the province of the physician to so direct those influences that they shall result in the greatest good to the offspring.

So far as we know there are but two or three medical colleges that have made any effort to give special instruction upon diseases of the teeth and their many associate lesions; we hope, however, to see others soon following their example.

We also hope that the dentist of the future will be (as the dentist of to-day ought to be) a well-educated physician with such special training as shall fit him for the practice of dentistry in its broadest and most comprehensive sense.

* * *

—CEMENT FOR SEALING BOTTLES.—Mix three parts of resin, one of caustic soda, and five of water. This composition is then mixed with half its weight of plaster of paris. The compound sets in three quarters of an hour, adheres strongly, is not permeable like plaster used alone, and is attacked only slightly by warm water.

THE COMBINATION OF GOLD AND AMALGAM AS A THERAPEUTICAL AGENT.

In the October (1882) number of the *Ohio State Journal of Dental Science*, Dr. Watt, in replying to Dr. Pease's paper on amalgam, quotes a case of a patient of his who suffered from irritation of pulp, due to galvanic action by wearing gold and amalgam in the same tooth, the filling having been inserted by an itinerant Yankee.

Having systematically used gold and amalgam in *combination* for a number of years, with marked success, in cases where some positive therapeutic measure was demanded to stop the ravages of disease, as for instance in caries located at the cervix; in young tooth-structure, or in teeth poorly calcified, I am led to believe it a specific as a prophylactic if physical and physiological laws are observed in its employment.

In the case reported by Dr. Watt my diagnosis is that the patient was suffering from pulpitis, induced by thermal influences. The removal of the metallic filling and the substitution of a non-conductor like Hill's stopping prevented the irritation from thermal changes, and if a capping of oxyphosphate of zinc had been introduced under the metal, and the patient had avoided all extremes of temperature for a time, nature would have done the rest, and a cure been the result. I assume, of course, a vital condition of the pulp, though Dr. Watt does not state what was the pathological condition other than that the tooth gave the patient great pain. The Yankee may have filled over a partially or totally devitalized pulp.

In cases where amalgam filling is sealed over by gold, I believe irritation might follow in certain cases, such as an acid systemic condition with an acid saliva, but where both metals are exposed to the oral secretions, I cannot conceive of any galvanic action upon the dentine. There is doubtless in such cases slight galvanic action, but it is *confined to the metals.*

In using amalgam alone I find that, by preparing it with mercury into which has been rubbed say thirty to forty per cent. of gold—sufficient to form it into a pasty mass—heat is evolved in the first stages of its crystallization. This would seem to indicate chemical union, and I think the oral secretions can have very little corroding action upon its surface.

Two years ago I read a paper and gave a demonstration before the Odontological Society of Pennsylvania, of the combination of gold and amalgam, showing how they could be used with advantage to both patient and operator in compound cavities, or in cavities in approximal and grinding-surfaces, condensing the amalgam with a light mallet, following with plain soft foil in cylinder form, until the mercury line was passed, and finishing the depth of the enamel with hard cohesive gold; or, by another plan, allowing the amalgam to crystallize and using it as a matrix, thus converting a compound into a simple cavity, and finishing with gold. Last July, at Williamsport, at a meeting of the Pennsylvania State Dental Society, I read a paper and demonstrated the advantages of combining gold and amalgam in filling large compound cavities in the approximal and grinding-surfaces of a second superior bicuspid and first molar for Dr. W. B. Miller, of Altoona, assistant secretary of the society. In reply to a recent inquiry as to his experience with these fillings, Dr. Miller says that with the exception of a slight periostitis of short duration, he has suffered no inconvenience whatever; that from his own experience and practice he is favorably impressed with the advantages of combining gold and amalgam; that he has adopted the method in his own practice; that he believes it to be not only a saving of time and of nervous force of both patient and operator, but a valuable therapeutic measure in the preservation of the natural teeth.

Many who saw these operations performed upon Dr. Miller will be gratified to know that they have proved successful and that the gentleman himself, who has the reputation of being a beautiful manipulator of cohesive foil, shows by adopting the method his belief that mechanical and physiological laws do harmonize, and that, as Dr. Watt puts it, "truth and simplicity are twin sisters." The principles underlying the laws of health and life, and as well the influenees which tend toward disease and death, are still somewhat obsure, but we formulate laws as the result of experience just in proportion as we appreciate uniform results from like conditions; and, though beautiful but fallacious theories of other days are thus overturned, we must be willing to learn what experience teaches us.

Teeth do not decay by chance. Inherited defects of tendencies, or personal neglect, may cause pathological conditions, but like causes operate with like disadvantage upon all the organs and tissues of animal life. All development, and not less all disease, and restoration to ease or health, is under the dominion of law,—vital, chemical, or mechanical. Aitkens defines disease to be "a deviation from the state of health, consisting for the most part in a change in the properties or structure of any tissue or organ unfit for the performance of its actions or functions according to the laws of the healthy frame;" and the same author defines therapeutics to be "the action of remedies upon the diseased economy, or the means by which nature may be aided in her return to health." If carious teeth are to be cured, it must be through a recognition of the fact that caries is a disease, and that the cure must come through therapeutic influences. Beautiful operations are not to be underrated, but the principal fact to be considered in the treatment of a diseased tooth is how to cure the disease. There are some conditions in which, with our present light, we are compelled to partially destroy the circulation or life of a tooth to save its body. It was demonstrated years ago that a tooth has an inside and an outside circulation, independent of each other. We destroy the nutrient supply to the inside, and by filling preserve the tooth from disintegration or decay; but caries and decay are not the same thing. Decay means to rot; caries means quite another thing. Devitalized teeth are subject to decay, but not to caries. Vitalized teeth are subject to caries, but not to decay. The same conditions in the mouth may lead to both these processes, but the processes differ. In the one cese there is dissolution, and the formation of new chemical compounds; in the other we have, in addition to the former process, all the phenomena of vital tissue in relation with the arterial and nervous circulation of the organism. To cure diseased vital teeth all manipulation, whatever it may be, is therapeutic in character, even thongh it be seemingly only mechanical. When we expose the dentine of a vital tooth, we expose its circulation, for the basis-substance consists for many years of but slight partitions, while fibrillæ and nervous reticula pervade its every part. Under certain conditions, dentine is converted almost entirely into basis-substance, yet with wonderful recuperative energy, as has been shown in the tusk of the elephant in which bullets have been entirely inclosed. Manipulative ability is successful in the treatment of diseased teeth just in proportion as we make an intelligent diagnosis of the individual case and the application of the proper therapeutic remedy.

In order to make a foreign substance held in living tissue not only bearable but beneficial, we must study individual idiosyncrasies and acquire experience by watching the curative influences of our treatment, so as to discriminate as to materials, with reference to their adaptability to different ages or stages of tooth-life. Simply to fill a hole in dentine without regard to the peculiarities of the individual case is nothing more or less than empiricism.—H. C. Register, M. D., *in Dental Cosmos.*

* * *

UNITING GOLD TO AMALGAM IN TOOTH FILLING.

BY N. W. KINGSLEY, D.D.S., OF NEW YORK.

Reported to the N. Y. Odontological Society.

I would like to refer to a use I have been making of amalgam for several years, and which I reported to the State Society some four or five years ago. I advocated at that time that in many instances of large cavities on approximal surfaces,—of bicuspids and molars particularly,—they should be partly filled with amalgam, to be followed at the same sitting with gold, carrying out the filling to the grinding-surface of the tooth, if one desired to avoid a full amalgam filling. Without going into a lengthy discussion of the arguments in favor, or the objections that might be offered, let me say that I have seen a great many of those fillings, and have watched them with much solicitude and anxiety, but I have never seen a single instance where there has been any recurrence of decay at the cervical edge of the cavity. In nearly every case that I have seen, I have found the amalgam discolored on the surface, but the gold as bright as any gold filling, and the tooth preserved perfectly from further decay. I have been querying, why this result; whether it was attributable entirely to the fact that with the amalgam I got perhaps a closer adaptation to the cervical edge of the cavity than I would with gold, or whether it was owing to some galvanic condition of the different metals in contact or what? But this I do know, that sooner or later the majority of operations, under like circumstances, when made with gold, are giving out at that portion of the cavity, no matter by whom they are made. I say a majority, not because I havc had an opportunity of examining all the fillings made by every operator, but because I am constantly seeing the work of the most skillful operators in gold giving out at the point referred to, within a few years. There is not a dentist who is not seeing this almost daily, and among his own patients, if he would but have the candor to admit it. I have been puzzled for an explanation of the success where amalgam has been used in this manner. There is no evidence of shrinkage of the amalgam that is placed in the upper part of the cavity. Whatever amalgam may do under other circumstances, that amalgam shows no shrinkage after it is put in. It remains perfectly tight, and the tooth does not discolor in contact with it. In filling a tooth in this way, the amalgam occupies a third or a half of the cavity, and the gold is immediately forced into it. For some little time the gold will absorb the mercury and take up all the excess. After that ceases, the gold shows its true gold appearance, and unites or welds in the usual way. The filling can be finished as soon as the gold is packed. The amalgam will be found sufficiently hard to be finished up to the cervical edge. We see here two results: one is that the gold has taken up all the excess of the mercury that can possibly be taken from the mass of amalgam, preventing the possibility of shrinkage; and, secondly, such a filling is in a better condition to make a perfect flush edge at the cervical border. There is little or no risk of the difficulty so often found with gold fillings, of the filling standing out and forming a lodgment for foreign matters, which will end in decay, because the amalgam has not become so hard but that it can be easily brought flush with the body of the tooth. This may be the explanation of the results that I believe will almost invariably attend such operations. I spoke of this before the State Society a few years since with some timidity, for the reason that there is such a pre,udice in the minds of almost every one against amalgam,—and especially as the charge is often made that amalgam is only used by those who cannot put in a gold filling. It was not for the reason that gold could not be used, but because I saw gold fillings were constantly giving out, that I felt obliged to resort to something for the good of the patient, and the result has been so successful and uniform that I felt it a duty to give somebody else the benefit of it.

CARBOLIC ACID POISONING.

Dr. Inglessi, in *Bulletin Général de Thérapeutique*, has arrived at the following conclusions respecting this: First, the symptoms of poisoning by external application of carbolic acid are the same as those which arise from the absorption of the poison by the stomach from the gastric mucous membrane. Second, poisoning occurs certainly where the acid has been applied to the skin or injected into a serous, mucous, or abscess cavity. From the exposed surface of a wound the absorption is very slight, and the toxic effects trifling. The mucous membrane of the respiratory passages may serve as the place of introduction of the poison. Third, the effects may assume a very acute form, a less acute form or a chronic form. Fourth, there exist certain idiosyncrasies; women and children are especially liable to carbolic acid poisoning. Fifth, the toxic dose is variable. In persons predisposed, one grain of carbolic acid may be sufficient to poison. Sixth, carbolic acid as an application to contused wounds should be used with caution, and in some cases should even be substituted by a less dangerous agent. Seventh, the treatment of severe carbolic acid poisoning should consist in artificial respiration and diffusible stimulants, especially the hypodermic injection of ether. In other cases, the removal of the cause, through the discontinuance of the remedy, will suffice to remove the symptoms.—*Druggists' Circular.*

PROFESSIONAL COURTESY.

Will the time ever come when the spirit of jealousy and personal feeling shall depart from all professions and every man shall hail every other as brother and friend? What a spectacle is presented to the world in almost every town and city where professional men most do congregate, of that petty strife and bickering spirit that results in a mutual loss of respect and frequently develops into actual hatred.

It is found as often in the dental profession as in any other. Who has known two or three of the leading dentists of a town or city to be on friendly terms? Instead, we all know the common experience, of being forced to listen to slurring and derogatory remarks of one or more of the profession, sometimes of all as a whole, the manifestation of a churlish, uncharitable spirit that savors of anything but "Professional courtesy" or a conformity to the spirit of the "Code of Ethics." Yet these same old stagers who are frequently not on speaking terms with each other, are apt to be most chary of extending a cordial welcome, to the beginner in practice, and watch with jealous eye his every move, and are quick to condemn anything they may consider "unprofessional."

Now this is not as it should be, and while it is an unpleasant truth, yet it should receive consideration, and sober thought from every dentist who loves his profession and is jealous (in the right spirit) of its honor. Let us strive to lay aside our personal feeling more and be governed by that broad spirit of honorable dealing and true courtesy that refuses to speak ill of any man, and especially of a professional brother, to not only do that, but make an effort to be friendly, and extend the fraternal hand to every one. To whom shall the beginner in practice look for encouragement if not to the older members of the profession? Is it apt to increase his respect for the profession at large or for its leaders, when he sees manifested that unprofessional feeling of jealousy so often exhibitid? I fear not.

We all can call to mind a few dentists who seem to feel that every other dentist is a natural enemy, to be treated accordingly. However, I am glad to know that their number is not legion. But I appeal for the honor of our calling when I say, let us cultivate more and more the virtues of forbearance, mutual respect and that unity of effort that shall place us, as a profession, on somewhat higher ground in this respect.—*Vindex, in Dental Headlight.*

THE PLANTAIN AS A STYPTIC.

THE following abstract of a paper read by Dr. Quinlan at the recent British Pharmaceutical Congress, may prove of interest to medical readers in this country, where the plant mentioned is a common weed:

"About a year ago Dr. Quinlan had seen the chewed leaves of the *Plantago lanceolata* successfully used to stop a dangerous hemorrhage from leech-bites in a situation where pressure could not be employed. He had searched out the literature of the subject, and found that, although this herb is highly spoken of by Culpepper and other old writers as a styptic, and alluded to as such in the plays of Shakespeare, its employment seems to have died out. Professor Quinlan described the suitable varieties of plantain,and exhibited preparations which had been made for him by Dr. J. Evans, of Dublin, State apothecary. They dried leaves and powdered leaves, conserved with glycerine, for external use; the juice preserved by alcohol, as also by glycerine, for internal use; and a green extract. He gave an account of the chemistry of the juice, from which it appeared that it was not a member of the tannin series; and also described its physiological effect in causing a tendency to stasia in the capillaries of the tail of a goldfish, examined with a microscopic power of 400 X. He regarded its styptic power as partly mechanical and partly physiological. The juice, in large doses, he had found useful in internal hemorrhages.—The knowledge of the properties of this plant he thought would be useful in cases of emergency, because it could be obtained in any field and by the most uninstructed persons."—*Scientific American.*

—CEMENT FOR REPAIRING GLASS.—Dissolve fine glue in strong acetic acid to form a thin paste.

NEW PUBLICATION.

"DIAGRAM OF AN INCISOR TOOTH," by Prof. Frank Abbott, M.D., New York. Published by request of the Dental Society of New York. Price, $1.00.

This is a six colored lithographic diagram of the longitudinal section of an upper incisor, and gives a remarkably clear and distinct representation of the minute anatomy of a tooth and its immediate surroundings. Dr. Abbott deserves much credit for the production of this, the best illustration of dental histology it has been our fortune to examine. No student of dentistry should be without it, and by its aid the practitioner can answer in a quick and comprehensive manner the many questions propounded by patients with regard to tooth structure, etc.

THE CURSE OF CHLORAL.

"A sad glimpse into the life of the late Dante Rosetti, over whose newly-closed grave the lovers of the two arts are mourning, is afforded by the brief memoir of Theodore Watts. The curse of chloral upon any life is disastrous enough, but its features are brought into terrible salience when it falls upon the gifts of genius. No man ever lived who was so generous as he in symathizing with other men's work, save only when the cruel fumes of chloral turned him against everything. The dependence on its influence which chloral habitually taken inevitably causes, the nervous prostration which it gradually induces, the irritability which follows chloral sleep, and follows equally the sleepless nights of abstinence, the slowly sapping of the nervous energy—all these are only too familiar, and over and over again during the past ten years we have pointed out their moral."—*Lancet.*

"No wrath of men or rage of seas
Can shake a just man's purposes;
No threats of tyrants, or the grim
Visage of them can alter him;
But what he doth first intend,
That he holds firmly to the end."
—*Herrick.*

PUBLISHER'S NOTICE.

To the Dental Profession:

In bringing this new publication to your notice, I have been actuated, not wholly by selfish motives, but by an earnest desire to contribute my mite toward the enlightenment and advancement of the profession. I have placed the editorship in the hands of a gentleman in whose ability and earnestness I have every confidence, and shall labor with him to make the journal worthy of your support and encouragement.

For the present, **THE DENTAL PRACTITIONER** *will be mailed to subscribers at* 50 *cents a year, payable in advance. A specimen copy will be furnished those sending name and address. Hoping that a goodly share of the slips which accompany this number may be filled up and returned to us before the next issue,*

I remain, very truly yours,

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January 15th, 1883. *Philadelphia, Pa.*

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"I like their smooth surface, and life-like appearance in the mouth."

"I find them better adapted to work to a model, than any I ever worked."

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Snow & Lewis Automatic Mallet,	12.00	10.00
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(With 7 gallon bag, $2.00 extra.)		
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No.	¼-inch.	⅜-inch.	½-inch.	⅝-inch.	¾-inch.	1-inch.
00	$ 06	$	$	$	$	$
0	07					
1	10	12	15	17	20	30
2	14	15	17	20	25	35
3	18	20	25	30	35	40
4	22	25	30	35	40	50
5	26	30	40	45	50	60
6	35	45	50	60	70	85
7	50	60	70	85	1 00	1 30
8	85	1 10	1 30	1 50	1 75	2 25
9	1 25	1 50	1 80	2 25	2 70	3 50
10	2 00	2 50	3 00	3 25	3 50	4 50
11	2 75	3 50	4 25	5 00	5 75	6 25

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The object of the School is to impart a thorough knowledge of Dental Science and Art. In pursuance of this object, it will be the aim of the professors to qualify their students to perform that highest service of the dental practitioner—*the saving of the natural teeth*—in the most scientific and skillful manner. They will also give such practical teaching in Prosthetic Dentistry as will secure the best results of Dental Art and Mechanism. Each student is expected, during his course of study, to perform with his own hand, under the direction of a competent Demonstrator, all the usual operations of Dentistry.

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Six Ingots to the Pound. ***Per Ingot, $1.00.***

Printed Instructions with each Ingot.

This metal is far superior to the well-known Watt & Williams metal. It is the result of diligent research, aided by abundant leisure, and long experience in the science of metallurgy.

Watt's Metal is stronger and runs sharper than any in use, while it withstands chemical action within the mouth better than 18 carat gold.

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PRICE REDUCED TO $3.00 PER OZ.

5 oz. at one time, $2.75 per oz.; 10 oz at one time, $2.5o. per oz.

This Amalgam has been before the profession in Ohio and Western Pennsylvania for some years, and all who have used or tested it, agree that it has merits over any other Amalgam in the market.

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Dr. King is enabled to obtain better results, both in regard to COLOR, SHRINKAGE and EXPANSION, than is obtained in any other alloy in the market.

Test for color consists of sixty grains of Sulphuret of Potassa, dissolved in one ounce of water. Amalgam plugs to be left in this solution twenty-four hours or more. The Occidental will remain bright after this test, and we know of no other Amalgam, at even double the price, but that will discolor. All who would use the best should buy it.

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1883

"OHIO STATE JOURNAL OF DENTAL SCIENCE!"

GEO. WATT, M.D., D.D.S., Editor, Xenia, Ohio.

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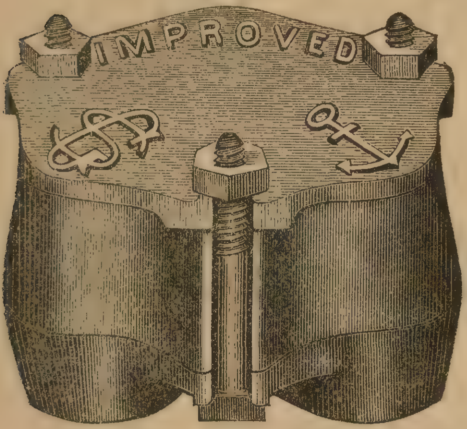

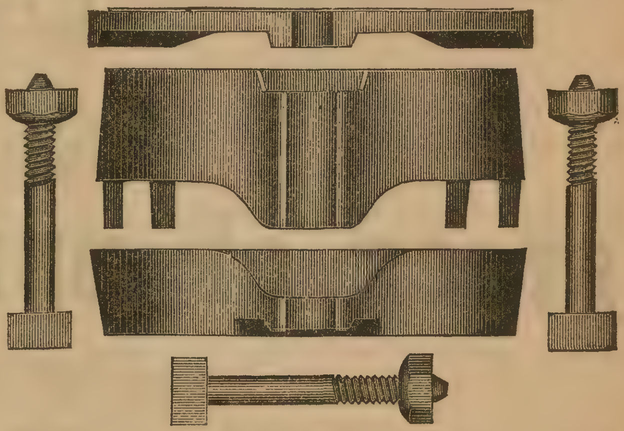

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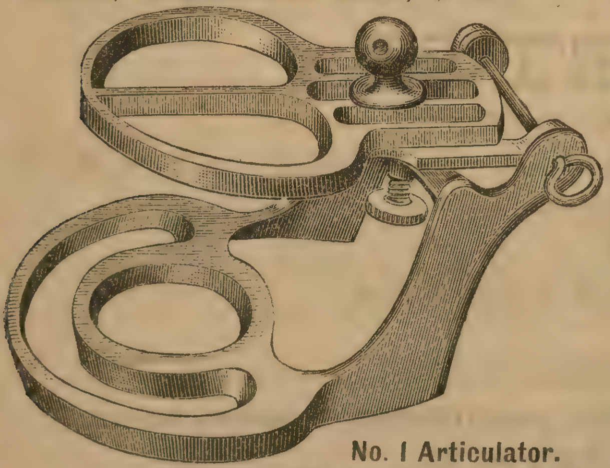

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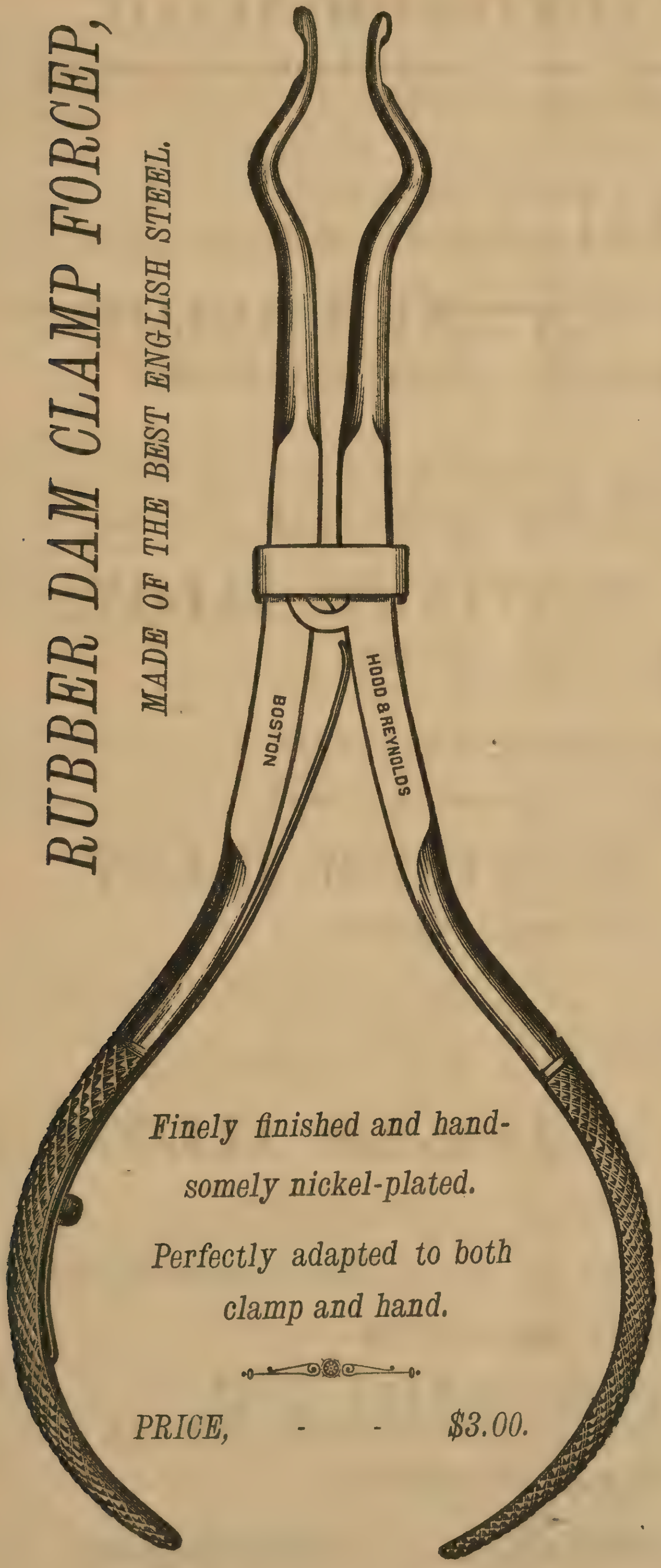
MADE OF THE BEST ENGLISH STEEL.



Finely finished and handsomely nickel-plated.

Perfectly adapted to both clamp and hand.

PRICE, - - $3.00.

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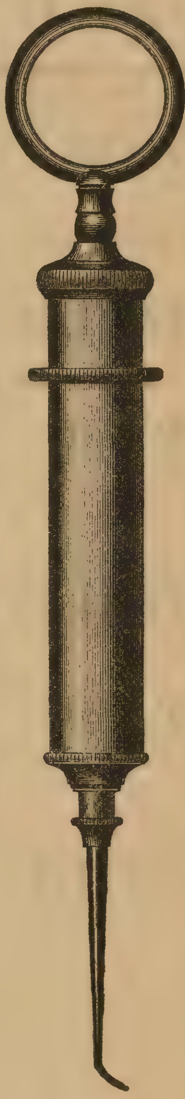

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If, after using it according to directions, it does not prove SUPERIOR to any other ALLOY or AMALGAM in the market.

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If it will not stand all tests essential to a FIRST-CLASS FILLING.

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GOLD AND PLATINUM ALLOY,

If it DISCOLORS in the mouth.

DON'T USE

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GOLD AND PLATINUM ALLOY,

If it SHRINKS or EXPANDS.

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SIBLEY'S

GOLD AND PLATINUM ALLOY,

If it PROVES to be the BEST, but not otherwise.

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SEND $1.00 for 1-3 oz. SAMPLE PACKAGE.

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CAULK'S DIAMOND CEMENT.

This compound now stands without a rival. From two to four years' test by leading dentists throughout the world has proved it to be all that has been claimed for it.

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Fillings that have been standing in the mouth *over* three years, in comparison with other plastic material in the market, show not only its SUPERIORITY, but it has proved to be *more insoluble* than many of the so-called insoluble cements.

We have increased the quantity fully one-third, and all bottles will be lettered with "CAULK'S DIAMOND CEMENT." This Cement can be made in all shades and colors.

PRICE, (two colors), grey and yellow,	per package,	$2.00
" (two colors) grey, yellow, medium, light,	" "	1.00

CAULK'S HYDRAULIC PEBBLES.

This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such material. It is harder, tougher, and stronger, resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

Its *hydraulic* qualities render it invaluable for setting pivot teeth. It is so pliable that it can be moulded or shaped into various forms, and when crystallization is complete, can be carved and polished, same as the sculptor does his marble.

PRICE, Large package,	$3.00
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" " third ounce,	1.00
two ounces for	5.00

CAULK'S WHITE ALLOY.

This Alloy is made expressly for Front Teeth,—is of a peculiar greyish-white color which will retain its brightness under all circumstances.

(Prices same as Par-Excellence Alloy.)

CAULK'S DIAMOND POINT STOPPING.

This form of gutta-percha, having been in the market for several years, has stood the greatest test of all—that of time It is regarded as the best preparation of its kind for filling teeth in the world.

As now made, it is much tougher, of finer texture, and requires no more heat to soften it. It possesses all the desirable qualities necessary for a filling-material of this character, viz., toughness, hardness, durability, plasticity, uniformity, and cohesiveness.

The Stopping is put up in *sealed envelopes*, and the Pellets and Cylinders in *sealed boxes*, each bearing a fac-simile of our signature.

PRICE, in one-eighth, one-quarter, and one-half ounce packages, - per ounce, $4.00

We make a specialty of manufacturing these materials for filling teeth.

They are standard and reliable, used and endorsed by the profession generally. They have won upon their merits, and the constantly increasing demand attests their superiority and excellence

Pamphlet of 14 pages giving full description, sent upon application.

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Manufacturer and Proprietor, Camden, Delaware.

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MANUFACTURER OF ARTIFICIAL TEETH.

DEALER IN DENTAL SUPPLIES.

Members of the Profession, not having used our manufacture of Teeth, will study their own interest by sending for a sample set.

They will be found to be equal, if not superior, in strength and bony texture, to any other manufacture, regardless of price. Our **Pins are Larger** than most makes and we have a large and varied assortment of shades and shapes, thus being able to suit almost any case. Do not fail to give them a trial!

COMPARISON SOUGHT ON THE FOLLOWING POINTS:

Strength, Natural Shape, Texture, Colors, Large Double-Headed Pins, &c., combined with our very large assortment of Moulds and Variety of Shades.

PRICES, (Gum or Plain.)

IN SETS OF 14. - - - - - $1.00 PER SET.

Postage free to all parts of the United States.

PARTIAL SETS, - - - - 8 CENTS PER TOOTH.

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A liberal discount for quantities. Our Teeth are for sale by most dealers.

☞N. B.—All our Gum Sections bear our Trade Mark as above.

"THE DENTAL PRACTITIONER" is from the Press of A. C. BRYSON. 21 South Seventh St.

FEBRUARY 15th, 1883. VOL. I.—NO. 2.

THE Dental Practitioner.

A MONTHLY JOURNAL.

Published by GIDEON SIBLEY. PHILADELPHIA. Edited by CHAS. E. PIKE, D.D.S.

Office of Publication, 13th and Filbert Streets, Philadelphia, Pa.

THE BUSINESS QUALIFICATIONS OF PROFESSIONAL MEN.

BY L. ASHLEY FAUGHT, D. D. S.

MUCH has been said and written to guide the young professional, (and we limit the term to those medically educated, *i. e.*, Dentists and Physicians,) to successful practice. Of this dictum from those gone before much pertains to points of medical interest, and very little, if any, to business qualifications. The result of this status is exactly what any body might naturally expect. While many have reached more than fair, and not a few, envious positions as healers of the ills to which flesh is heir; those who have obtained comfortable subsistence for themselves and families can easily be enumerated; and the few who have secured a continuance of the same after their death, can be counted on the the fingers. It is thus an amply proven error to suppose that wealth always follows merit, even when industriously applied. It matters not what other elements may enter into the choice, every one that enters professional life selects it as other men choose other vocations,—with the view of reaping pecuniary reward. Yet ere the first year wanes, and through the added ones, the *fact* that they are professional men with the view of making *money* is not kept pre-eminently prominent to *themselves*, as the chief actuating principle of their work. The desires which regulate their lives become arranged thus,—their patient's interests, honor, fame, friends, riches; rather than as would be infinitely more proper,—riches, their patient's interests, honor, fame, friends. While the wants of suffering humanity, applying for the healer's art, should always be his highest immediate thought; he should never fail to feel that he himself, and those near and dear, are also human, and that a great responsibility rests upon him which must be discharged in providing for them. By the word "riches" I indicate one's own interests, and mean that which is enough for immediate wants, for it has been well said,—"He who has enough for his own immediate wants, who owes no man any thing, and is not fostering in his own heart a brood of extravagant desires, is comfortably rich." To attain this condition professional men should have, besides professional ability, business qualifications.

As a first requisite, then, professional men should studiously endeavor to acquire, what is termed in business circles, good address. "That rare quality so difficult to define or portray, and much more difficult to impart, but much more valuable than affluence, or the most commanding personal appearance." "A man's own manners commonly frame his fortune." Give careful obedience to all set rules of polite society, even to those which seem of so little weight that one might set them aside with propriety, and add to attention in this direction a calm, courteous, serene bearing under all circumstances and conditions. Be never betrayed from such equilibrium. Not only let the mode of behavior be such as can give no possible offence, but even let it be conciliatory when needful; for a disposition to gratify and oblige others, whenever reasonable or possible, without a sacrifice of honor, is sure to command the esteem of the most intelligent. Thoughtful attention to the comforts of those whom business or pleasure brings into immediate contact has a value beyond comparison. In all dealings conserve the principle of truthfulness. Nothing will so quickly mar the efficacy of address as the element of deceit. Professional men have no more right to lie than have others. The cloak of benefitting the patients by keeping them in ignorance is one, the falsity of which is sure to be made manifiest in distrust, loss of confidence, loss of patients, and final want of success. One is not always constrained or bound to speak, except when silence allows or leads another to make inferences that will work to his detriment; but when one does speak let it be the truth. To the anxious inquiry of patients, it is not only policy, but also duty to instruct them in the *rationale* of the treatment. One must remember that a charge is made for services rendered, and he is supposed to be familiar with his science, and he owes it to his patients to convince them that he is qualified and worthy of confidence. Let such instruction, however, be clear and concise, for "reason wrapped in few words is generally of greatest weight;" and let conversation while receiving and dismissing patients be strictly upon professional matters, and as closely as possible connected with the work in hand. Avoid all gossip, all reference to self, or to other cases in practice; and during active operating maintain a silence, devoting the undivided energies to the satisfactory accomplishment of that for which it is expected to receive a fee. In no sense become familiar while in a professional capacity. Let outward demeanor be void of all stiffness, yet tacitly offer a bar that would check intrusive inquiry or action. The greater the respect patients have for the practitioner, the more willingly will they seek and accept service, and the more gratefully will they render that pecuniary return which is the acknowledgment of a favor conferred. Above all things keep one's own counsel as to the specific stages of an operation and their attendant result. If change should then be needful or occur in either, it will save making lengthy and often unsatisfactory explanations, and the action will be received as one of original anticipation and intent.

The position in which a business man opens his store has much to do with his success. It is not any the less important that the professional man ponder well the location of his office.

All successful business men have been pre-eminently distinguished for their intense and steady industry, so if a dentist would succeed he must give great application to his work. Having appointed office hours he should see to it that he is always there during them. It is well to be in our place even if we have nothing to do there but to passively await what may arise; never forgetting that if we have no positive engagement with any one individual, we have an implied engagement with the whole public; and should one of the community see fit to hold us to it, nothing would so rightly provoke him as upon calling to find that it had been forgotten. For instance, "Office hours from nine to four" is on the card. These hours have been voluntarily set. The hand of the clock points to five minutes of four, and as the dentist has patiently born confinement all the day, he feels that the last few minutes are of no consequence, and departs. Some one calls just before the stroke of the hour, and finds that he has apparently forgotten the implied engagement with him. It does not take long for the public to question, when inclined to call upon such for services, as to whether it is worth while, as ten chances to one they will find him out. When in the office, with no direct work in hand, application to something in the allied line of professional labor will bring great reward. It will keep one from stagnating; it will keep one bright, with the faculties all awake and ready for the next case when it appears.

Good business men always possess the power of attention. A good dentist needs to cultivate this quality, until he can force his mind upon one subject and keep it there, in spite of distracting surroundings, until he has accomplished his purpose. He should be able without fatigue to connect inference with inference through a long series to a set end; mastering all principles and bearings, all details and applications, letting nothing escape his observation which will contribute to a successful issue.

System is essential to all who would accomplish much with the greatest economy of time. In the first place have system in regard to memory. In placing things away in the store-house of knowledge arrange them in such order that they will not be in a snarl when wanted. It is not what a man knows, but what he can use on the instant, that will be his greatest aid in business and the standby in times of emergency. Some men know much, indeed are quite learned, are acquainted with all possible points of the matter in hand, but their knowledge is so illy arranged that it is utterly impossible for them to get at it, or to wield it with power. Confusion, blundering progress, and final failure, crown efforts of many who are well capable to be successful, except that they keep their mental furnishing in such disorder. It is not because they are unarmed, but because they cannot get the sword in hand in time to wield the deadly thrust. The mind should have its facts, as the bobbins ready for the loom in a great weaving establishment; each thread, of every color and kind, neatly wound with the end fastened securely. When wanted, any one can be quickly selected, placed in the shuttle, and without knot, tangle, or snarl, woven smoothly and freely into the web. Next, have system in regard to work. "Have a place for everything and evrything in its place." Do nothing without plan and method, and never try to do a dozen things at once. He who catches at first one thing and then another, rarely succeeds in doing one well. It is easy to sneer at what is termed "red tape," but if it be judiciously used, it must contribute to success.

Be accurate in all transactions,— "whatever is worth doing at all, is worth doing well." Every one recognizes that it is better to do one thing well, than to accomplish much in a slovenly way. The quality of being accurate is vital to the business man, and even more so to the professional. He who is inexact can have little hope of success, though he have every other essential quality.

Punctuality is a necessary virtue to the successful dentist. Nothing will so sap all confidence in you as to have the reputation of being always behind time. To be late is to waste the time of another, to be ahead of time, to waste your own. Punctuality consists in neither being early nor late, *but on time*. Keep a watch. Carefully regulate it, and then follow it. Meet appointments promptly. If promises, to be at a certain place at a given moment, have been made, be surely there as the hand points the hour. Of all things be punctual in the payment of promised moneys. How many men have been made bankrupt by customers delaying paying their notes and accounts.

Dispatch is another essential in professional life. This quality is not so vital as some we have mentioned, yet it gives a finish which will bring much profit. Train to do everything in the least possible time. Wait upon a patient with the same consistent speed, as though there was not a moment to spare, even when positively knowing that no one waits to fill the chair when empty. The highest skill is obtained in this way, and a confidence inspired, which will wield a strong influence over practice. The effect is to cause patients to feel that such a dentist has no time to waste, the inference being that he must be very busy. Peculiar as it may seem, the overworked men in any profession are the men sought by the multitude. The reason for this is that the public recognize that a man in full running order is much more likely to serve them promptly and satisfactorily, than one who has to get up steam for the occasion.

There can be no success in any professional life without decision of character. He who is constantly thinking of the opinion his patients may entertain of this or that action, is one whose best efforts will be weak, vacillating, and short of the mark. Let us do whatever we do, because it is the best thing to do, and we know it to be right, regardless of for whom or to whom it is rendered. Victories and defeats in this world often turn on minutes, and there is nothing like promptness and firmness. Impress upon the patient that we are never wavering in our line of treatment, where we have formed an opinion of his case, and he will soon feel that the reason for our steady progression is a decision based upon knowledge. In times of great responsibility he is generally successful in treatment who grows cool in proportion as the patient grows scared. There are some professional men too, who never know what point they desire to reach in a line of treatment, and go on seeking failure far past that at which they could have rested their labors with success. There are times also, when it is just as well, yea, infinitely better, to refuse a case than to attempt its cure. One must decide promptly in such matters, for it will not do to first blow hot and then cold.

[TO BE CONTINUED.]

CARBOLIC ACID IN PULPITIS WITH EXPOSURE.

BY EDWARD C. KIRK, D.D.S.

PERHAPS no method of treating exposed pulps has given more satisfactory results than that introduced, I believe, by Dr. King, of Pittsburgh, which consists essentially of covering the point of exposure with a putty of zinc oxide and carbolic acid, and covering this with oxychloride, over which may be placed a facing of gold or alloy. A large number of exposed pulps have been saved in this way, even after they have ached for a time, which otherwise would have been sacrificed. That the successful results which follow this treatment must be due in greater part to the action of the carbolic acid cannot be doubted. With a view to obtaining further information as to its action upon pulp tissue, I made a series of experiments about two years ago to study its coagulating effect on albumen. Into several test tubes, each containing an equal bulk of albumen from the egg, was poured the same volume of carbolic acid of varying strengths. To the first tube was added the strongest liquid acid that could be obtained. To the second tube was added a somewhat diluted acid, and to the third a still weaker, and so on in like manner to the end of the series.

The result in the first tube was a dense, white coagulum, which formed as a thin layer between the surfaces of the two liquids.

This coagulum did not increase perceptibly in size after standing for several hours, showing that the action of the strong acid is self limited.

The coagula formed in the other tubes showed a regular gradation in volume and density as the acid was more diluted, that formed by the weaker solutions being soft and friable and without power to retain its form.

When carbolic acid is applied in full strength to an exposed pulp the pain is lessened, carbolic acid being a local anaesthetic, and a dense pellicle of coagulated tissue is formed, which acts as a protective coating to the pulp beneath, thus preventing any irritation from the capping material which is to follow.

This cap can be made of almost any non-conducting material, cemented in with oxychloride or oxyphosphate of zinc. Before the cement is inserted, however, the cavity should be painted with a resinous solution, such as Canada balsam in chloroform to prevent any irritation to the pulp from the free chloride of zinc before the cement has set.

Pulps can be treated in this manner, and the cavity closed at once without fear of subsequent inflammation from the action of the carbolic acid.

A property of carbolic acid which renders it especially applicable to the treatment of pulpitis is that the inflammation produced by its local application is reparative in character and always stops short of suppuration. It alters the character of a pus-exuding surface, causing it to take on a healthy inflammatory action, tending towards repair.

Dr. R J. Levis in his clinical lectures at Pennsylvania Hospital strongly advocates its use in the treatment of certain serous cysts. In such a condition, for instance, as hydrocele his plan is to evacuate the contents of the cyst through a canula, and then inject through the same instrument, by means of a suitable syringe, about two drachms of deliquesced crystals of carbolic acid, withdraw the canula and close the wound with a piece of adhesive plaster. A slight feeling of warmth but no pain follows the operation and there is no subsequent formation of pus. In these latter particulars it differs from tincture of iodine which always gives intense pain, is frequently followed by dangerous sloughing and always by an amount of inflammation sufficient to produce pus which must escape or be absorbed.

These facts and the experiments made with albumen tend to show that in certain cases of pulpitis with exposure strong carbolic acid is one of the best remedies at our command. When a patient presents an exposed and aching pulp for our treatment we have to deal with an inflamed tissue or organ, which inflammation does not differ in its essential characteristics from an inflammation in any other part of the body except in so far as it is modified by the peculiarities of its position and surroundings.

If we decide to make an effort to restore the pulp to a physiological condition by reducing the inflammation and capping, the use of strong carbolic acid is indicated. If the tooth has ached for some time it is more than likely that slight suppuration is taking place at the point of exposure. An application of carbolic acid corrects this condition at once as above indicated.

The question may arise, is not creosote equally good in such cases? The difficulty of obtaining a good article, uniform in quality and composition, and the fact that its coagulating power is inferior to strong carbolic acid would give the preference to the latter material although there may be but little, if any difference in the value of these two agents for disinfecting pulp canals both possessing antiseptic, and disinfecting qualities in a marked degree.

DAILY PRACTICE.

BY THEODORE F. CHUPEIN, D. D. S.,
PHILADELPHIA.

To the dentist engaged in active practice, almost the same cases present for his attention daily. A toothache from incipient decay, when the patient complains of pain on eating sweet, salt, or acid food. A toothache from deep seated decay when pain is induced from particles of irritating food lodging in the cavity. A toothache induced on taking cold fluids, which indicates that the pulp is nearly exposed. A toothache induced by warm or hot food, which points out pulp trouble, probably congestion of that organ. The treatment of the first is simple. The removal of the incipient decay—most generally occurring on the proximate surfaces—by the use of corundum disks, or files, leaving the point of contact undisturbed by either, although separating the teeth well and removing all the superficial decay and polishing the surfaces. The second class requires the cavities to be filled; for these are deep seated and the disk or file will not remove the decay as in the first. How or with what to fill these cavities must be determined by the shape of the tooth or its character. If the tooth be one with a narrow neck and touching by only a small point of contact, a contour filling is indicated; but if the surfaces in contact are broad and flat then a self cleansing separation, properly made, must be first done, after which the cavity filled. As to the material, this must be determined by the character of the tooth. If the tooth be of a hard dense nature, gold will be the best material to use, but if of a soft chalky nature, gutta percha or amalgam will be better than gold.

The cases however, which give the dentist the most care and solicitude are those where the pulp is nearly or quite exposed. When the patient reports that the tooth is painful to cold applications, and has not ached, and only aches when cold fluids are taken in the mouth, the dentist feels more hope of success in what he is about to do. In cases of this kind the first effort is to apply the rubber dam, clear the cavity of all debris or accumulated food, and if pain is present to allay this *first*. This may be done with a little chloroform applied in the cavity, or a little carbolic acid. Should these fail, other obtundents must be applied, until complete quiet or comfort is induced, before proceeding further. A little bi-carb soda, or aqua ammonia will secure this sometimes when other agents fail—or a mixture of several medicines may allay the pain when no single medicine will have that effect. Equal parts of chloroform, tinct. aconite, laudanum, carbolic acid and glycerine, have often proved available to allay the pain. When the pain is allayed we may proceed with the case. A fair, clear view, and approach to the cavity must now be made, and all, or nearly all, disorganized tissue removed. Absolute alcohol may be applied on a pellet of cotton to the cavity, and left until quite dry. This agent by its great affinity for water will rob the dentine of its moisture and allow that tissue to absorb such medicines as may have a healing or therapeutic effect on the nearly exposed pulp, or warm air, by means of the warm air cavity syringe, may be injected in the cavity for a like purpose. Having proceeded with the case thus far, the next effort is to flood the cavity with pure carbolic acid. When I say pure carbolic acid I do not mean carbolic acid in crystals—but undiluted carbolic acid. Should the carbolic acid be in the form of crystals, as pure carbolic acid generally is in cold weather, the bottle containing it should be placed in warm water, when the crystals will dissolve. This liquid should be used in the cavity and allowed to remain for some time, until the heretofore dried dentine gets well saturated with it. A little of this same carbolic acid may now be mixed with the oxide of zinc (the powder which comes with the packages of chloride of zinc filling material). The carbolic acid which had been placed in the cavity may now be absorbed away with small pieces of soft spunk or other absorbents. This paste of carbolic acid and oxide of zinc, which should be mixed as thick as possible, is now applied over the floor of the cavity and any excess of carbolic acid in the paste should be absorbed from it, with spunk, while at the same time the spunk may be used to flatten or smooth it over the floor of the cavity and over the nearly exposed pulp. Any excess of this paste which may have found its way to the cervical border of the cavity, or indeed to any border or margin of the cavity, should be carefully scraped away. Having proceeded thus far the next effort is to fill the cavity. No metallic filling material would here be indicated—nor indeed would a gutta percha filling be at all serviceable. A chloride of zinc or phosphate of zinc filling material can alone be used in such a case as we have been describing. I give the preference to the former, which, if mixed thick, may be introduced into the cavity over the paste without giving pain.

In cases where there is an exposure of the pulp either by an accidental cut of the excavator in preparing the cavity, or by the ravages of decay, the mode of procedure will be very nearly as described above. The bleeding from the wounded or exposed pulp must be first arrested. Carbolic acid is sufficently styptic for this purpose. When the bleeding has ceased, the cavity, as before, is flooded with carbolic acid. The paste, as before, is mixed. A small disk, cut from the lead foil which lines tea chests, is cut by means of a rubber dam punch. This disk is laid on a bit of soft wood, and with the end of the handle of an excavator it is pressed upon. This leaves it concave on one surface and convex on the other. The concave side is filled with the paste, and this is laid over the exposed pulp, and the cavity filled, as before, with phosphate or chloride of zinc.

The cases most difficult to get comfortable are those where there is a diseased or congested condition of the exposed pulp. We will find sometimes the pulp in one root entirely dead while the part contained in the pulp chamber, and the other root or roots remains alive. In this case the dead pulp should be removed, and the root cleansed and filled. We use for this a paste made of carbolic and salicylic acids, and with a lock of cotton, in which these anticeptics are well incorporated, we fill the root. The remaining part of the pulp we treat with carbolic acid or we sometimes cauterize it with nitrate of silver. We may not fill the case permanently when such complications exist, as frequently the portion of the pulp remaining gives trouble; but by such efforts and frequent treatment we may be successful and save such cases in comfort and usefulness for a long time.

IMPRESSIONS.

[Continued from last Month.]

BY WM. R. HALL.

In the continuation of this article on impressions, I will say that, while lower impressions are acknowledged to be the most troublesome to take, on account of the interference of the tongue and cheeks, or a few crooked teeth, still, with a tray that is properly adapted to the case, and selection of the proper material, much of the trouble and ill success will be avoided, if there be no teeth to interfere. The case is very simple; take a wax impression, the same as for the upper, cutting out a portion to make room for the plaster, but letting the wax extend outwardly beyond the tray at the posterior ends, to push away the cheek, which frequently, unless thus pushed away, gets caught between the impression and the gum. After removal the wax is scored with a knife and chilled as usual; fill with plaster. After placing in the mouth, and before pressing down, get the patient to raise the tongue to the roof of the mouth; then press down to its place and hold firmly, until the plaster is sufficently set to remove.

If the incisors and cuspids are the only teeth that remain, the tray selected should have a space cut out for the teeth to pass through freely. In the trays made for this purpose the space is generally too small.

If, in addition, a molar on each side remain, a lever tray, with straight sides, should be selected.

If a solitary molar be in the way, cut a space in the tray for the tooth to pass through. If the lower maxilla be edentulous, with a thin, sharply defined ridge, I have found the modeling composition make a very good impression if properly cooled before removal. A plate stamped from a zinc model, taken from a composition impression, fits rather loosely upon the gum—and in many cases is more comfortable to the wearer than a closer fitting plate, the pressure being mostly on the top of the ridge.

I might here say that in my experience with modeling composition, I have been quite successful in gaining results that I could not have gained by other material. It requires careful management. Dry heat should be used to soften it instead of hot water. Have the fingers a little dampened with a wet towel. Care must be taken not to fill the tray too full; if pressed to the gum quickly it curls and spreads away from the gum, the same as wax, but if it be pressed slowly it clings to the gum, and before becoming hard the forefinger of the right hand can be used to press any portion close to the gum that may escape beyond the edge of the tray. It ought not to be removed until quite hard.

The modeling composition can be used to great advantage in taking sectional impressions where the teeth are long and few in number, especially the incisors and cuspids turning inwardly. A tray, with the outside rim removed, should be used, and enough of the composition placed in it to take the inside of the impression. After removal, trim the edge next the teeth square; then replace and hold firmly, while pressing a strip of warm composition against the teeth, letting it lap over the composition first put in the tray; after allowing it to chill remove the outside piece first; when the two pieces are placed together, fasten them with cement.

Where two teeth incline together, so as to form a tringular space, the composition can be pressed in to fill the space, and trimmed to a wedge shape, and a plaster impression taken over it, the two together forming a perfect impression.

Again the composition has become indespensable in repairing old sets of teeth, for the purpose of getting an accurate impression of the space with a tooth or a clasp.

SELECTING AND ADJUSTING ARTIFICIAL TEETH.

BY W. E. DRISCOLL, D.D.S., BEDFORD, IND.

It is a source of astonishment to me how easily many dentists are satisfied with the patterns of gum teeth usually supplied them by dealers.

I have examined the entire stock of many dealers, and have been compelled to turn away without buying, simply because the lot did not contain anything that would improve my own office supply, and at a time, too, when I felt I was as good as minus teeth that were suitable for the most common cases.

What was lacking? Why, perhaps in the largest stocks, there would not be a single set that could be adjusted to the gums so that the upper front teeth would not show entirely too much, not only of porcelain, but often of plate rim also.

Yet I saw dentists buying from these lots as if they contained all that could possibly be desired. If such dentists wish to get results that will open their eyes let them order a supply in something like these words:

"Please send me a lot of your gum teeth comprising all the sizes and shades, *with pins very near to the cutting edges* of the upper front teeth, and with gums very high and thin." "Oh, but they will not be strong enough!" will be the reply of such as must always meet a suggestion with an objection.—*Try them* and see;—you can break them, but it will not be necessary. Try grinding the edge of the gum next the rim perfectly square, and in waxing up do not let any material overlap the gum except at the molars. Then fill around the gums in the flask with plaster, mixed very stiff. Give the plate material time to take form under pressure when closing the flask, and be just as certain to have all perfectly cool before opening; do not grip the plate so hard in the hand as to spring it and crack the gums, and you will break fewer of these thin gums than you did in the old way with the clumsy stumps of porcelain that made their wearer hideous.

By following the above plan, my assistant has not broken more than one block in the hundred full sets in vulcanizing and finishing, from the beginning of his pupilage to the present time.

And these unbelievers will be as much astonished when I say we cannot recall a a case where one of these thin front blocks has been broken off in use by the patient, while a large part of our work is replacing front blocks on plates where thick blocks were first used.

How can that be? Very simple, indeed. We set up our cases so that the back teeth receive the force of closing the jaws; while in nine tenths of the cases that come in our way we find the main pressure to be on the front teeth.

It would seem that many dentists never look back of the cuspids to see how the articulation is there. The patient insists on the front teeth fitting firmly or nearly together; knowning, like the dentist, it would seem, little or nothing about the dropping and tipping such an articulation will produce. Thus we get two good results—in preventing breakage, and the tipping and dropping of the plate.

Another point: I wrote to a manufacturer of teeth to ask if he could relieve us, in his future additions of moulds, from the weary labor of grinding away the large, useless lumps of porcelain attached to each end of his blocks of gum teeth. I received a petulant answer that he had never heard any such complaint before, and that with a good corundum wheel it was only a trifling matter to cut away the surplus material. But when I reflected that I could set up two sets of teeth of another manufacturer with as little hard labor as I could set up one of his make, I decided not to buy at that establishment until the manager came to my way of thinking.

With such extreme quantities of surplus material to cut away, one is liable to lose his bearings, and find, at last, that he has spoiled a block which could have been easily adjusted had there not been such a bewildering lapse of time between the commencement and finishing of the joints.

About nine tenths, perhaps, of all the artificial teeth we see, are so set on the plate that the outside cusps of the molars and bicuspids strike before the inside cusps do. Then, if the patient closes the jaws a little to one side, a rocking or tipping of the plate is the result, which would not occur if both sides were alike prominent. To overcome this, in some cases the labial surface of the gum must be ground at the joint to remove the "offset" and the surface polished.

The Dental Practitioner

PHILADELPHIA, FEBRUARY, 1883.

—THE Twenty-seventh Annual Commencement of the Pennsylvania College of Dental Surgery, will be held at the Academy of Music, on Friday, March 2d, at 12 M.

—PHILADELPHIA DENTAL COLLEGE and Hospital of Oral Surgery.—This institution holds its Annual Commencement at the Academy of Music, on the evening of February 28th. Friends and others desirous of stage seats can secure them by sending their request to the Dean.

—THE Twentieth Annual Meeting of the Alumni Association of the Philadelphia Dental College, will be held in the College Building, 108 North Tenth street, on Wednesday, February 28th, 1883, at 10 A. M.

The usual supper to the members of the Alumni Association, will be given at St. George's Hall, in the evening at 10 o'clock.

—THE Fifth Annual Reunion of the Alumni of the Ohio College of Dental Surgery will take place in the lecture room of the College, Wednesday, March 7th, at 12 o'clock. Banquet at Kepler's same evening at 10 o'clock.

—THE Mississippi Valley Dental Association, will hold its Thirty-ninth Annual Meeting in Cincinnati at the Ohio Dental College, Wednesday, Thursday and Friday, March 7th, 8th and 9th, 1883. Friday afternoon will be devoted to a Clinic and the exhibition of appliances.

SUBJECTS FOR DISCUSSION.

1. Nervous and Muscular affections, dependent on Dental Irritation.
2. Etiology and pathology of dental caries. Treatment by filling.
3. Periodontitis and alveolar abscess, pathology and treatment.
4. Prosthetic Dentistry: Restoration of features and expression; how best accomplished.
5. Fitting artificial crowns to roots of natural teeth: New and Old methods.
6. Reports of cases in practice.

—DR. J. E. GARRESON depends strictly on the use of the following combination for the treatment of cutaneous erysipelas; speaking of it to his class as the nearest approach to a specific with which he is familiar.

℞.—Tincturæ ferri chloridi, . . ℥j:
Tincturæ cinchonæ, . . . ℥ss:
Quiniæ sulphatis, ... ʒj.
M. Sig., Paint over the part every hour.

—A COMBINATION much prescribed in the Oral Clinic department of the Philadelphia Dental College, where stimulation is indicated in the mouth, consists of union in equal parts of tincture of capsicum and tincture of myrrh; the formula is used by adding the medicines to water until the latter is changed in color to a bluish white. It applies most satisfactorily as an injection for alveolar fistulæ.

—ON another page will be found the text of an act to further regulate the practice of dentistry in Pennsylvania. The committee having the matter in charge, request practitioners throughout the State to use their influence with the Senators and Representatives of their respective districts to have this proposed supplementary act become a law.

—THE February number of the *Dental Cosmos*, contains a paper by DR. D. D. SMITH, read before the Massachusetts Dental Society, entitled, "*Discrimination in the selection and use of Filling Materials*," which is replete with so much sound common sense, and so many practical suggestions, that we would gladly republish it if space permitted.

Dr. Smith writes as one who stands aloof from the war of the extremists, and passes his calm judgment upon the merits and demerits of their respective positions. Without accepting or condemning either *in toto*, he shows how these *extremes* may sometimes be brought harmoniously together, and result in preserving teeth which neither gold or amalgam alone would satisfactorily do.

While the brisk cannonade which has been so long kept up between the "New Departure" and the "Nothing but Gold" factions may not have materially changed the views of either, it has undoubtedly resulted in much good to the profession at large. We think those honest men who have been so earnestly advocating their own peculiar methods of practice, deserve the thanks of the profession, if for no other reason, for awakening such a spirit of experimentation and investigation as may bring to light truths which otherwise might have remained in darkness.

Many are seeking refuge upon that middle ground where we think they are far more likely to be rewarded by success.

HYGIENIC SUGGESTIONS.

In our intercourse with members of the profession, we are often led mentally to inquire, why it is that so few dentists present that robust appearance and ruddy complexion indicating a proper balance and harmony between all the functions, which we call good health; and why so many are of sallow, faded out complexion, dyspeptic, or nervously broken down.

Dentists ought to know, and the majority of them do know, those physiological laws, upon the due observance of which sound health depends; but in the hurry and worry of every day life they forget *themselves*, until they awaken to the fact that they have a system shattered and broken down—perhaps beyond repair.

Some there are who recognize and appreciate the importance of taking care of themselves, not only for the comfort and happiness of themselves and their families, but that they may be better able to contribute their share towards the comfort and happiness of humanity. Such need no words of warning. But to that poor, nervous, sickly and petulant brother, to whom trifles appear as mountains, who frets and fumes over his work, failing to perform it in an easy and satisfactory manner either to himself or his patient, we make an earnest appeal to stop and consider the folly of curtailing the inevitably short span of human existence by misdirecting his energies, and running the machinery of life with so much friction that it must eventually result in a "break down."

Believing that a few suggestions upon this subject would be timely, we feel warranted in calling the attention of our readers to certain things which we, as a profession, need.

We need better ventilation for our offices, more out-door exercise, and more sunlight; we need more amusements and more holidays; we need more regularity, more contentment, and *less* fuss and worry. We dare say there is not one of our readers who will deny that these assertions are facts.

We have visited some offices where the overheated and confined atmosphere seemed actually poisonous, and we could not wonder at the sickly and lifeless appearance of their occupants. If we must remain in-doors, let us see to it that we have plenty of good fresh air to breathe.

The leisure walk or stroll is not all that is required in the way of exercise; the heart should be made to beat faster and stronger until the remotest capillaries feel the force of the enlivened blood current. Combine sport with your exercise if you will,—so much the better. Some one has said, "Ten hearty laughs—real shouts—will do more to advance health and vitality than an hour spent in the best attitudes and motions if done in a sober, solemn spirit."

Take a portion of your exercise in the sunlight; not necessarily in the scorching sun of noon day, but sometime during the day let the light of his countenance shine upon you. "Take a day off" occasionally, and with family or friends spend it in the woods and fields, or in such rational modes of enjoyment as may suggest themselves. Rational amusements are always health-promoting. So far as possible, be systematic and regular in eating, in exercise, and in business. Statistics show that regularity of habits conduces, not only to health, but to long life.

"The human body is, to all intents and purposes, as much a machine as a locomotive. It must be duly supplied with fuel and water, kept well lubricated, thoroughly polished and clean, and given time to cool off its coppers, and then there is no computing how much work can be gotten out of it. Those, be it remembered, get the most who are systematic and regular in all their physical habits."

Whatever duties present, strive honestly, conscientiously, to perform them to the best of your ability, and when that is done, be content with the result so far as that particular case is concerned.

An Italian in his 116th year, upon being asked the secret of his living so long, replied:

> "When hungry, of the best I eat,
> And dry and warm I keep my feet;
> I screen my head from sun and rain,
> And let few cares perplex my brain."

The narrator observes that the last line contains the quintessence of the best advice that can be given on the subject. One of the greatest foes to longevity is excitement. Worry kills faster than work. Aside from the consideration of health as an element of comfort and happiness, it is one of the prime requisites to business success. A man must be a *good animal*, with good circulation and digestion if he would properly execute the judgment and conceptions of his mind. Of what use are the finest tools to the mechanic who has not a strong and steady hand to use them? What does it avail if your mind has become a vast storehouse of knowledge and you have not strength to turn the key?

TOTAL LOSS, BY SLOUGHING, OF BOTH PAROTID GLANDS.

BY C. M. RAMSDELL, A.M., M.D.,
OF LAMPASAS, TEXAS.

On the 26th of August, 1882, my brother, Dr. F. R. Ramsdell, was called into the country to see a case of fever. The patient was Mr. Lewis C., white, carpenter, æt. 29, native of Michigan; height, 5 ft. 11 in.; weight, 150 pounds; family history, consumption on the side of the father, whom he resembles. For several weeks he had been working among the cedar brakes on the Colorado river, where he contracted chills and fever, which soon compelled him to quit work.

When seen, Aug. 26th, he was delirious, very restless, with marked opisthotonos, and complained of constant and severe pain in the back part of the head and neck. His temperature in the axilla was 106° F., pulse 120, resp. 32, spasmodic. He was given potassii brom. gr. x, tr. aconit. gtt. iij, spt. æth. nit f℥ss, every two hours until fever abated; then cinchonia alkaloid gr. xx, in four doses, one to be taken every four hours. On the following day I saw the patient, and from that time on the case was treated by my brother and myself in company.

During the night of the 26th, the fever left him and returned on the afternoon of the 27th; the temperature reached 105°, but there was no opisthotonos and but little delirium The urine was scanty and very dark, coffee-colored, and much pain was felt in the lumbar region. He was given spt. æth. nit. a teaspoonful every three hours for two days, and the same amount every six hours for several days longer, the urine gradually becoming normal in quantity and color. During the night of the 27th he took quinine gr. xxx, with pulv. doveri gr. x.

There was no return of the fever, but the patient was greatly prostrated so that he could scarcely sit up in bed. He was stupid, and talked incoherently much of the time during the 28th, still complaining of pain in the head. On the morning of the 29th his left jaw began to swell, and by noon the whole left side of the face and neck was much swollen and very painful, especially in the parotid region. There was also intense pain in the left ear, and the patient was continually turning from side to side and crying out. Morphine in doses of gr. ¾ to gr. j, every four hours, and local applications of vinegar and hot fomentations, gave only slight relief. On the 30th, the right parotid region became inflamed, and the swelling on that side was soon as great as on the left, reaching an enormous extent on both sides, extending down the neck to the shoulders and backwards beyond the mastoid region, so that the auricles were thrust upwards and forwards, giving a very grotesque appearance to the sufferer's countenance.

The prostration was so great and the rigidity of the jaws such, that food was administered with difficulty. He was given half an ounce of brandy in egg-nog or milk-punch every two hours for three days, and at longer intervals, alternating with animal broths, for about two weeks. Quinine gr. v was also given night and morning from Aug. 28 to Sept. 8. His tongue was enlarged and heavily coated, mouth very dry, and hearing much impaired. On Sept. 1st there was a discharge of thin, ichorous pus from the left meatus auditorius externus. On the 2d, a similar discharge took place from the right, and fluctuation was noticeable just back of the lobe of each ear. He also had a slight chill, and night sweats set in, for which he was given 20 drops of aromatic sulphuric acid three times a day for four days.

On Sept. 3d, the abscess on the left side was lanced at a point half an inch below and behind the lobe of the ear, and the day following that on the right was opened at a corresponding point, in both cases giving exit to a large quantity —an ounce or more—of thick yellow pus mixed with a substance resembling the white of egg. From this time on the pain was much less severe, and the morphine was discontinued, but, as the patient kept calling for it at frequent intervals, to pacify him a number of powders were made out, consisting only of wheat flour, labelled "morphine," and after taking one of these he always seemed to be greatly relieved. His bowels were inclined to be constipated, but an action was procured about once in two days by the use of small doses of sulphate of magnesia.

On the 8th, he was put upon the following tonic which he continued to use for three weeks.

℞.—Tr. nucis vomicæ, . . . f℥ iiss.
Tr. cinchonæ, . q. s. ad. f℥ iv.—M.
S. A teaspoonful four times a day after eating.

An attempt was made to apply compresses to the sides of the neck in order to secure thorough evacuation of the abscesses and prevent burrowing of the pus, but the patient would not tolerate any kind of dressing, pulling them off as fast as they could be applied.

On the morning of the 10th, the openings made by the lancet, which had become considerably enlarged by sloughing, were found occluded by what the attendants thought to be "proud flesh." This was removed by pulling it out with forceps, and was found to be the parotid glands almost entire, the superficial portions having sloughed away so that only a few fibres of tissue held them in place. The left gland came out easily, the right required a little cutting to detach it from its connections. Both presented a similiar appearance, being somewhat spongy and having deep sulci, apparently where large bloodvessels or nerve-trunks had passed through their substance, and the right gland still showed something like the outlines of the natural shape, but the left was not larger than the first joint of the thumb, and its true character could be made out only by its position and its internal structure.

After the removal of the glands as much as three fluid ounces of thick pus escaped from each cavity. There was no hemorrhage nor has there been any paralysis, so that no important nerves or bloodvessels could have been involved. No other glands were implicated nor was there and burrowing of pus. The discharge from the ears ceased in a few days after the glands came away, the only treatment directed to them having been a daily syringing out with warm water.

On September 13th, he was given sixty granules containing one-tenth of a grain of calcium sulphide each, of which he took three per diem until all were used. He recovered strength slowly, the wounds remaining open until about the middle of October.

By the 10th of November he was entirely well, except slight stiffness of the jaws. He then complained of having more "heart-burn" than he used to have, and said that his mouth seemed dryer than natural. A careful examination with a fine probe showed Steno's duct to be entirely closed on the left side, and to consist only of a *cul-de-sac* about one-fourth of an inch deep on the right.

At the present time, November 25th, his gastric trouble has disappeared and his mouth has regained its natural amount of moisture, doubtless through an increased activity in the remaining salivary glands. The loss of the parotid glands has caused no deformity beyond a slight depression and cicatrix at the site of the openings made by the lancet. The hearing is normal.

This case seems to be unique. Flint, *Practice of Medicine*. p. 401, says that parotiditis is an occasional complication of typhus and typhoid fever, and that in such cases considerable sloughing of the areolar tissue frequently occurs, but neither he nor any other writer, so far as I know, mentions loss of the gland as a possible result.—*Medical News.*

PLASTER OF PARIS vs. MODELING COMPOSITION.

BY DR. STEWART J. SPENCE.

In the *Journal* of November last Dr. U. Smith had an article "About Impressions," condemning plaster and recommending Modeling Composition No. 1. His claim is, that the composition, by compressing the softer tissues of the mouth, provides for a plate which will do similarly, and therefore be more permanently useful.

That provision should be made for this compression of the soft parts by a plate, is of the greatest importance. Harris recognizes it, and recommends, if I recollect right, brushing thin plaster over the impression at the parts corresponding to the soft parts of the mouth.

Richardson dwells upon the subject, and points out that "the tenacity with which a plate adheres, on the application of direct traction, cannot always be relied upon, inasmuch as a well fitting plate will sometimes be readily dislodged in this manner, while, on the contrary, one but illy adapted to the parts, may require considerable force to separate it from the jaw, when acted on in the same way. The most trustworthy test of actual or practical stability, is firm pressure, applied alternately over the ridge on each side, and in front."—*Mechanical Dentistry, p* 252.

Several other writers enforce the subject, some recommending treating the impression with a coating of varnish at the soft parts, or a few layers of tin foil, and others trimming down the model with a knife.

Harris says: "A vulcanite plate is larger than the mouth by the expansion of the model. Here, the contraction of gutta percha will prove a very valuable compensation, *also the compression of tissue, made by the pressure of wax.*"—*Principles and Practice of Dentistry, p* 548.

I dwell on this subject because of its importance, and I am glad to see it brought forward by Dr. Smith; but I must disagree with him as to the excellency of the Godiva Modeling Composition, and for these reasons: *It is elastic and pliable.* Though very pleasant to use, clean, and easy of application, it is treacherous. While it is very accommodating in taking the faintest depressions so as to delude the eye of the operator, it will bend out of shape in a wholesale manner. While wax, which has little elasticity, will, in being removed from a tooth, drag just at the tooth, locally, so to speak, the composition will drag not so much just *at* the tooth as around it, and that for some distance. I have noticed it thus dragged by a tooth away from the tray in lower impressions, thus throwing up that whole side of the impression. Nor is that all, but its elasticity developes itself in another feature, which is, that it has a tendency not to remain where placed. This is most troublesome at the buccal and labial surfaces of the upper jaw, where it becomes necessary to hold the material pressed until quite hard, or it will shrink away. This may be demonstrated by pressing a plaster model into a tray full of the Godiva, when it will be seen that the composition which is above the rim of the tray will shrink from the plaster, *and when pressed up against it will shrink away again as soon as the pressure is removed.* I am not prepared to deny that the pressure of the lips and cheeks may, in *some* cases, more or less counteract this shrinking away, but in others it seems to increase it.

Again, its specific gravity being considerable, and its resistance very slight, it bends from its own weight, when used very warm and soft, thus coming away from the parts where it may have been pressed, and possibly from the posterior portion of the plate, though I am not able to speak positively as to this. A Sufficient excess of the material may prevent it falling from the surfaces which are to be covered by the plate; and unless used *too* soft, I think it is not liable to occur. The same objection applies to the plaster if used too soft.

This pliability would not be an objection with the inferior ridge, and might be of some benefit. But when used very soft, it is deprived of the quality for which Dr. Smith recommends it, namely: compression of soft tissue; and the doctor seems to have overlooked the fact that plaster, when used stiff, will do this very thing.

Not condemning this nice material *in toto*, I desire to only indicate its faults, so that those using it may be on their guard; and I would recommend constant digital compression where needed, high flanges to trays, its use when not too warm and soft, and replacing the impression in the mouth after removing and immersing it in cold water.—*Ohio State Journal of Dental Science.*

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AN ACT

FOR THE REGISTRATION OF DENTISTS.

Supplementary to the act entitled "an act to regulate the practice of Dentistry, and to protect the people against empiricism in relation thereto, in the state of Pennsylvania, and providing penalties for the same," which became a law on the 17th day of April, 1876, providing for the registration of practitioners of Dentistry, and extending penalties for violation of the same.

SEC. 1st.—Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met and it is hereby enacted by the authority of the same. That it shall be the duty of any person practicing dentistry within this Commonwealth, within three months after the passage of this act, and of any person intending to practice dentistry within this Commonwealth, before commencing the same, to have recorded in the recorder's office in the County in which he or she practices or intends to practice, the diploma or certificate provided for in the act to which this is a supplement.

SEC. 2d.—Any person who may desire to practice Dentistry in this state after the passage of this act, having a dental diploma, issued or purporting to have been issued by any college, university, society, or association, in another state, or foreign country, shall present the same to the faculty of one of the dental colleges, or universities of this Commonwealth, or to the state examining board, provided for in the act to which this is a supplement, for approval; such faculty, or examining board, being satisfied as to the qualifications of the applicant, and the genuineness of the diploma, shall endorse the same as approved, after which the same may be recorded as aforesaid.

SEC. 3d.—Any person who is entitled to practice dentistry in this Commonwealth without a diploma or certificate, under the provisions of the 8th Section of the act to which this is a supplement, shall make written affidavit before some person qualified to administer an oath, setting forth the time of his continuous practice and the place or places where such practice was pursued in this Commonwealth, and shall within three months after the passage of this act have such affidavit recorded in the recorder's office of the county in which he is practicing. And it shall be the duty of the recorder to record such diplomas, certificates and affidavits in a book provided for such purpose.

SEC. 4th.—Any person who shall violate, or fail to comply with any of the provisions of this act or of the act to which this is a supplement, or who shall cause to be recorded any diploma or certificate which has been obtained fraudulently, or is in whole or in part a forgery, or shall make affidavit to any false statement to be recorded as aforesaid, shall be guilty of a misdemeanor, and, on conviction, shall be sentenced to pay a fine of not less than fifty nor more than two hundred dollars for each offense for the use of the proper county.

G. W. Klump, Williamsport, Pa.
E. P. Kremer, Lebanon, Pa.
C. S. Beck, Wilkesbarre, Pa.
Committee.

TREATMENT OF HEART DISEASE.

There seems to be in this city, and perhaps it is equally noticeable in other communities, a growing complaint of heart affections, and the *Medical and Surgical Reporter* had an article recently on this subject, in which rest is recommended as the best remedy for some kinds of heart troubles.

By this, says the editor, we mean not positive, but comparative rest; neither do we refer to inflammatory affections of the heart, wherein, from the very gravity of the disease, confinement to bed and consequent rest become necessarily assured. We are thinking of those cases of heart exhaustion, so to speak, of individuals whose general health and tonicity is much run down, from overwork or abuse, and in whom the heart shares in this general vitiation. Possibly the organ is not in itself diseased; its organic integrity may be perfect, but its muscular walls may be flabby and weak, ready to yield, or, more properly, unable to resist any great strain. If, when in this condition, the man resorts to any violent muscular exercise, or subjects himself to the influence of violent physical emotions, this weak heart may become mechanically distended, in its efforts to perform the extra labor demanded of it. Or it may be that dilation has already taken place to some extent; then does it become important to allow the organ time for the development of the beneficent hypertrophy that will do so much to preserve its integrity. By rest we mean to advise your patients who are threatened with or already have dilation of the heart to do everything slowly, to perform every act of life deliberately, and to avoid, as far as possible, all occassions calculated to excite the passions or emotions. We must ever remember what a delicate machine the heart is, and how easily it can become deranged, and realizing this, must consider how much more care this organ requires when it is already diseased. We must, under such circumstances, walk slowly, think slowly, eat slowly—in a word, do everything slowly. It is not well, and we do not recommend the carrying of this advice to the verge of laziness; but what we do mean is, that while it is well for all (either sound or diseased) to avoid hurry, it is ten times more important, ay, absolutely imperative, for the man with a weak or diseased heart.—*Scientific American.*

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—Alcohol absolutely free from water does not dissolve permanganate of potash, and therefore remains colorless if this substance is added to it. This has, therefore, been recommended as a test for absolute alcohols, but few alcohols will be found to stand this test, since if even absolutely free from water the alcohol will soon absorb enough from the atmosphere to dissolve some of the permanganate, and the results obtained would therefore be unreliable.—*Mechanics.*

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—The *Lancet* says: "It is high time that attention were directed to the subject of narcotics generally, and the use of chloral and bromide of potassium in particular. Incalculable injury is being done, and public opinion is being grievously misled by the tolerance given to the use of 'sleeping draughts,' falsely so-called. In regard to this matter and that of the reckless use of hypodermic injections of morphia, the profession should seek to form a deliberate judgment and gravely deliver itself. At the present moment we are under a heavy responsibility, which it is idle to deny and vain to disown."

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—A New Disinfectant.—A cheap and useful disinfectant is a solution of chloride of lead. It is inodorous, effective, and its cost very small. Take half a drachm of nitrate of lead and dissolve in a pint or more of boiling water. Dissolve two drachms of common salt in a pail or bucket of water, pour the two solutions together, allow the sediment to subside. The clear supernatant fluid will be a saturated solution of chloride of lead, and hung up in a room will sweeten a fetid atmosphere instantaneously, or the solution thrown down a sink, water-closet, or drain, or over a heap of refuse, will produce a like effect.—*Progress of Science.*

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5	26	30	40	45	50	60	
6	35	45	50	60	70	85	
7	50	60	70	85	1 00	1 30	
8	85	1 10	1 30	1 50	1 75	2 25	
9	1 25	1 50	1 80	2 25	2 70	3 50	
10	2 00	2 50	3 00	3 25	3 50	4 50	
11	2 75	3 50	4 25	5 00	5 75	6 25	

GIDEON SIBLEY.

KANSAS CITY DENTAL DEPOT,

KANSAS CITY, MO.

WESTERN HEADQUARTERS

FOR THE

CELEBRATED SG OR SIBLEY

TEETH.

The quality of these TEETH is beyond question, far superior to any for the price, and we find they give equal satisfaction to the highest priced ones.

OUR STOCK OF

DENTAL GOODS

WILL BE FOUND MUCH LARGER THAN THAT OF ANY OTHER

WESTERN HOUSE.

Enabling us to meet the requirements of any Dentist without the necessity of sending East.

Also, Agent for the "Dental Practitioner," Price, 50 cents a year.

NO DENTIST SHOULD BE WITHOUT IT.

ADDRESS ALL ORDERS TO

J. L. BREWSTER, Jr.,
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KANSAS CITY, MO.

PEIRCE'S AMALGAM.

RECOMMENDED FOR ITS

PURITY,
PERMANENCY,
PLASTICITY.

MANUFACTURED BY

DRS. PEIRCE,
PIKE, AND
PHREANER.

1415 WALNUT STREET, PHILADELPHIA, PA.

Price, $4.00 per oz. Put up in ounce and half-ounce packages.

This amalgam is made from strictly pure materials, and from the formula of Prof. C. N. Peirce. It was first made by Dr. Peirce for use in his own practice, and has become deservedly popular with those who have been for some years constantly using it. Its color, edge-strength and toughness render it one of the most desirable plastic filling materials, while shrinkage or expansion are not perceptible. Each package of amalgam will contain a piece of specially prepared "Asbestos Felt," with directions for its use as a capping for exposed pulps, or as a non-conducting septum between sensitive dentine and metallic fillings.

Orders by mail, directed to

Dr. W. A. Phreaner, 1415 Walnut Street, Philadelphia, Pa.,
will receive prompt attention.

For sale by GIDEON SIBLEY.

PHOSPHATE OF ZINC CEMENT.

Prepared by

DR. C. N. PEIRCE.

The properties of this Cement have been well tested, and not found wanting. It does not deteriorate with age. Directions accompany each package. It can be procured of dealers in dental supplies, and in quantity of the S. S. WHITE DENTAL MF'G CO., JOHNSON & LUND, and of the MANUFACTURER, 1415 Walnut Street, Phila.

PRICE, PER PACKAGE, $2.00. LIBERAL DISCOUNT TO THE TRADE.

FOR SALE BY GIDEON SIBLEY.

DENTAL DEPARTMENT
OF THE
STATE UNIVERSITY OF IOWA.

The object of the School is to impart a thorough knowledge of Dental Science and Art. In pursuance of this object, it will be the aim of the professors to qualify their students to perform that highest service of the dental practitioner—*the saving of the natural teeth*—in the most scientific and skillful manner. They will also give such practical teaching in Prosthetic Dentistry as will secure the best results of Dental Art and Mechanism. Each student is expected, during his course of study, to perform with his own hand, under the direction of a competent Demonstrator ,all the usual operations of Dentistry.

All Departments of the University are open to students entering the Dental Department, without additional charge. The lectures in general Anatomy, Physiology Chemistry, and Surgery are attended in common with the medical class. The Dental Specialties are taught by a corps of four professors, who are practicing dentists of large experience.

FEES—RESIDENTS OF THE STATE—MATRICULATION AND LECTURES, $40.00.
NON RESIDENTS, $65.00. GRADUATION FEE, $25.00.

For further information, address,

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A. O. HUNT, SEC'Y, IOWA CITY, IOWA.

SAMSON RUBBER

MANUFACTURED BY

EUGENE DOHERTY,

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WARRANTED TO BE

THE STRONGEST & MOST UNIFORM RUBBER MANUFACTURED.

It is the toughest and most durable Rubber made. Vulcanizes same as ordinary Rubber.

SAMSON RUBBER.

MANUFACTURER OF ALL KINDS OF

Dental Rubbers and Gutta Perchas.

PRICE LIST OF DENTAL RUBBERS AND GUTTA PERCHAS.

No. 1 Rubber, per lb.	$2 50	No. 1 Weighted or Amalgamated Rubber, per lb.	$4 00
No. 2 Rubber, per lb.	2 50	No. 2 Weighted or Amalgamated Rubber, per lb.	4 00
Samson Rubber, per lb.	3 00	Black Weighted or Amalgamated Rubber, per lb.	4 00
Black Rubber, per lb.	2 50	Weighted Gutta Percha, per lb.	4 00
Flexible or Palate Rubber, per lb.	2 75	Adamantine Filling or Stopping,	
Gutta Percha for Base Plates, per lb.	2 50		
Vulcanite Gutta Percha, per. lb.	3 50		

NOTE.—The above Rubbers and Gutta Perchas will be furnished in pound or half pound packages to any dentist in the country on receipt of price, and stating that they cannot get them at the Dental Depots in or near their place of business. Circulars giving full instructions how to use all of my Rubbers and Gutta Perchas, will be found in each box or package with the article ordered.

EUGENE DOHERTY,

444 First St., Brooklyn, E. D., New York.

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TENNESSEE

DENTAL DEPOT,

NASHVILLE, TENNESSEE.

The LARGEST and BEST SELECTED STOCK of Dental Goods in the South or West.

We keep every article needed by the Dentist, and sell them at the Manufacturer's Prices.

An elegant stock of the

CELEBRATED SIBLEY TEETH,

always on hand. The best $1 tooth in the United States. We have an immense stock of the well-known

WHITE AND JUSTI TEETH,

all varieties.

SOUTHERN AGENTS for the Wilkerson, Morrison, and Archer DENTAL CHAIRS.

And also, for the ARCHER BARBER CHAIRS.

We call special attention to the MORRISON BROS.' Forceps, Steel Goods, Gold Foil, Amalgam, &c. Orders filled PROMPTLY.

MORRISON BROS.,
No. 19 North Summer Street,
NASHVILLE, TENNESSEE.

WATT'S IMPROVED METAL.

BETTER THAN ANY IN USE!

Six Ingots to the Pound. ***Per Ingot, $1.00.***

Printed Instructions with each Ingot.

This metal is far superior to the well-known Watt & Williams metal. It is the result of diligent research, aided by abundant leisure, and long experience in the science of metallurgy.

Watt's Metal is stronger and runs sharper than any in use, while it withstands chemical action within the mouth better than 18 carat gold.

It has no equal for lower plates, gives a much better fit than rubber, celluloid, or gold, and is a good conductor of heat and electricity. Weight is often advantageous; but if shrinkage is very great a base plate of the metal may be made, and the teeth attached to it with rubber or celluloid. Most beautiful upper or lower dentures may be thus made, and no other work has greater durability

Molds may be made in almost any flask, but a glance at the cut of the Watt Flask will persuade any one to buy it who intends to use the work.

Ask your Dental Depot for it, or send to

RANSOM & RANDOLPH, Wholesale and Retail Agents,

83 JEFFERSON STREET, TOLEDO, OHIO.

For sale by GIDEON SIBLEY.

KING'S OCCIDENTAL AMALGAM.

PRICE REDUCED TO $3.00 PER OZ.

5 oz. at one time, $2.75 per oz.; 10 oz at one time, $2.50. per oz.

This Amalgam has been before the profession in Ohio and Western Pennsylvania for some years, and all who have used or tested it, agree that it has merits over any other Amalgam in the market.

The process of manufacture differs from that of other Amalgams, and

BY A NEW INVENTION

Dr. King is enabled to obtain better results, both in regard to COLOR, SHRINKAGE and EXPANSION, than is obtained in any other alloy in the market.

Test for color consists of sixty grains of Sulphuret of Potassa, dissolved in one ounce of water. Amalgam plugs to be left in this solution twenty-four hours or more. The Occidental will remain bright after this test, and we know of no other Amalgam, at even double the price, but that will discolor. All who would use the best should buy it.

Ask your Dental Depot for it, or send to

RANSOM & RANDOLPH, Wholesale Agents,

83 JEFFERSON ST., TOLEDO, OHIO.

For sale by GIDEON SIBLEY.

1883

"OHIO STATE JOURNAL OF DENTAL SCIENCE:"

GEO. WATT, M.D., D.D.S., Editor, Xenia, Ohio.

Monthly, 48 to 56 pages, making 600 pages reading matter during the year, exclusive of advertisements,
For Subscription price of $2.00. Published by

RANSOM & RANDOLPH, TOLEDO DENTAL DEPOT,

Dealers in every Instrument and Article used by Dentists and Surgeons.
All the Leading Goods in Stock, and Supplied at Manufacturers' Prices.

A Large Stock of JUSTI'S and WHITE'S TEETH, and the WELL-KNOWN SIBLEY TEETH always on hand.

Address all orders and subscriptions to

RANSOM & RANDOLPH,
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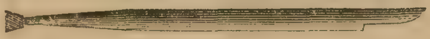
JUST OUT!

EUREKA ENGINE BURRS.



The EUREKA ENGINE BURRS are adapted to fit any Universal Hand-piece; the cut representing the shape of the Shank. They are cut with accuracy, each tooth in the Burr being cut the same size and depth, and carefully tempered.

We are now prepared to furnish the following styles and numbers of Excavating Burrs of this make:

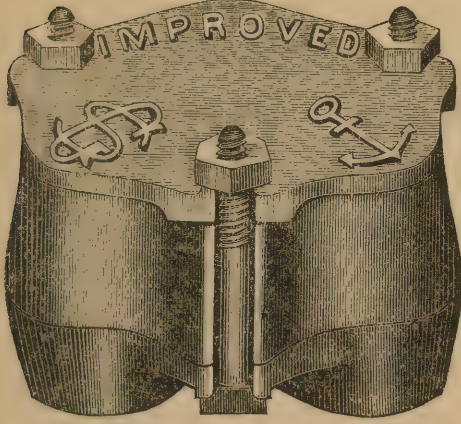
ROUND, Nos. 1, 3, 5, and 7. WHEEL, Nos. 14, 16, and 18.
INVERTED CONE, Nos. 34, 36, 38, and 40.
BUD, No. 51. FISSURE POINTED, No. 73.

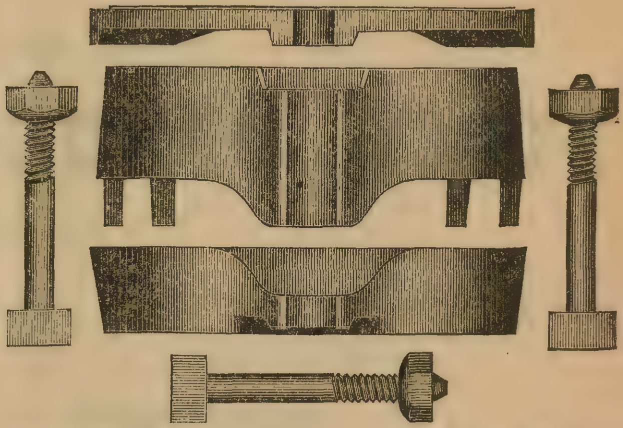
Other styles and numbers are being constantly added. Orders can be made up from any Catalogue, giving name and date of same.

PRICE, - - - $1.50 PER DOZEN.

GIDEON SIBLEY, PHILADELPHIA, PA.

IMPROVED ANCHOR FLASK.





The above cut represents a Flask of our own make, it being greatly improved over the old style Anchor Flask in many respects, (as follows):—

It is larger in size, and much thicker, weighing nearly two-thirds more.

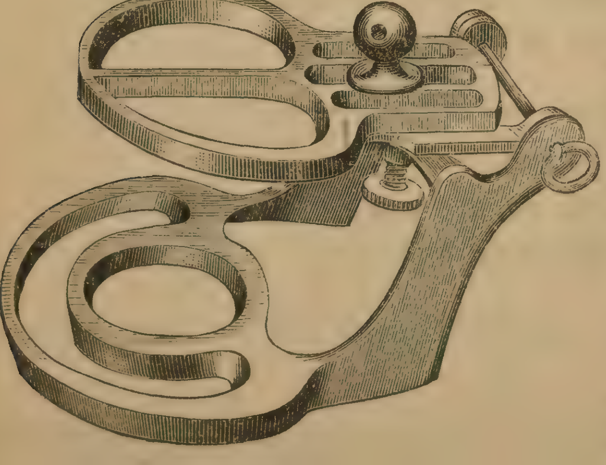
It has much longer guides, and is so constructed that it is impossible for the bolts to slip, thus making it the most perfect and convenient flask in the market.

Any Vulcanizer measuring 3⅞ inches in diameter inside will admit this flask easily.

PRICE, MALLEABLE IRON, $1.00, Postage, 25 cents.
EXTRA BOLTS, PER SET, 25 cents, " Free.
WRENCHES, - - - 10 " " "

GIDEON SIBLEY, PHILADELPHIA, PA.

NUMBER 1 ARTICULATOR.



Our No. 1 Articulator, which is here represented, is made of Brass, cast in dry sand moulds, carefully fitted in all its parts, and dipped, giving it a bright finish, making a very handsome and useful tool for the Laboratory.

PRICE, . - $1.00.
Postage, 10 cents.

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13th and Filbert Steets., Philad'a, Pa.

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DENTAL DEPOT,

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A FULL AND COMPLETE

STOCK OF DENTAL GOODS,

Comprising

DENTAL CHAIRS, ENGINES, LATHES,
BRACKETS, GAS APPARATUS,
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WHITE'S, JUSTI'S AND SIBLEY'S

TEETH.

We can recommend the last-named, as being the best $1.00 Tooth manufactured.

All our Goods will be found strictly reliable, and at Manufacturers' lowest rates.

—ALSO—

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Price FIFTY CENTS per Year.

Address all Orders for Goods, and Subscriptions to the "Dental Practitioner," as above.

PROMPT ATTENTION GUARANTEED.

QUINCY DENTAL DEPOT,

Quincy, Illinois.

All the Leading **DENTAL GOODS** kept constantly in Stock,

COMPRISING

Chairs, *Engines,* *Forceps,*
Brackets, *Lathes,* *Pluggers, &c.*
Spittoons, *Vulcanizers,*

THE VARIOUS BRANDS OF

GOLD FOILS, ALLOYS, AMALGAMS, CEMENTS,
STOPPINGS AND FILLINGS OF ALL KINDS.

RUBBER, CELLULOID PLATES, GUTTA PERCHA,
MODELING COMPOUND,
PLASTER OF PARIS, ETC.

Also, a large and varied Assortment of

THE THREE LEADING BRANDS OF TEETH,

White's, Justi's,

Sibley's.

The large and increasing sales of the last-named make of Teeth, is sufficient to guarantee their superiority over all others of similar price. By a large number of the Profession, they are considered equal to any in the market.

PROMPT ATTENTION TO ALL ORDERS GUARANTEED

DURANT & OEHLMANN,
QUINCY DENTAL DEPOT,
518 Hampshire Street, Quincy, Ill.

Agents for subscriptions to the DENTAL PRACTITIONER for 1883.

A. R. LUKENS. **ESTABLISHED 1866.** J. WHITTINGTON.

LUKENS & WHITTINGTON,

(FORMERLY BLAKE & CO.)

DENTAL INSTRUMENT MAKERS,

626 Race Street, Philadelphia.

Having removed from 212 Chester Street to 626 Race Street, we would inform our friends that we now have a larger establishment, ample machinery and increased working force, enabling us to meet the demands of our increasing business. Our friends can rely on the same careful attention to the workmanship and temper of our instruments. We have none but the most skillful in our repairing department, so that our customers may feel confident their repairing will receive the same care as in the past.

Send for Price List; also, your orders and repairing

LUKENS & WHITTINGTON,

626 Race Street, Philadelphia, Pa.

DENTAL FILES.

J. M. EARNEST,

MANUFACTURER OF

DENTAL FILES,

OF ALL DESCRIPTIONS, WARRANTED EQUAL TO THE BEST MADE.

Usual Discount to Wholesale Dealers.

FACTORY: No. 524 Sargeant Street, Philadelphia, Pa.

For Sale by GIDEON SIBLEY.

LAWRENCE'S AMALGAM.

This Amalgam has received the endorsement of the Profession at large for nearly forty years, which would seem to render any remarks as to its excellence superfluous. The retail price is invariably Three Dollars per ounce.

My offer, made a short time since, to sell at a reduced rate when purchased in quantities of more than a single ounce, is withdrawn.

Purchase only of reliable dealers, their agents, or of the inventor and only *manufacturer,*

AMBROSE LAWRENCE, M.D.

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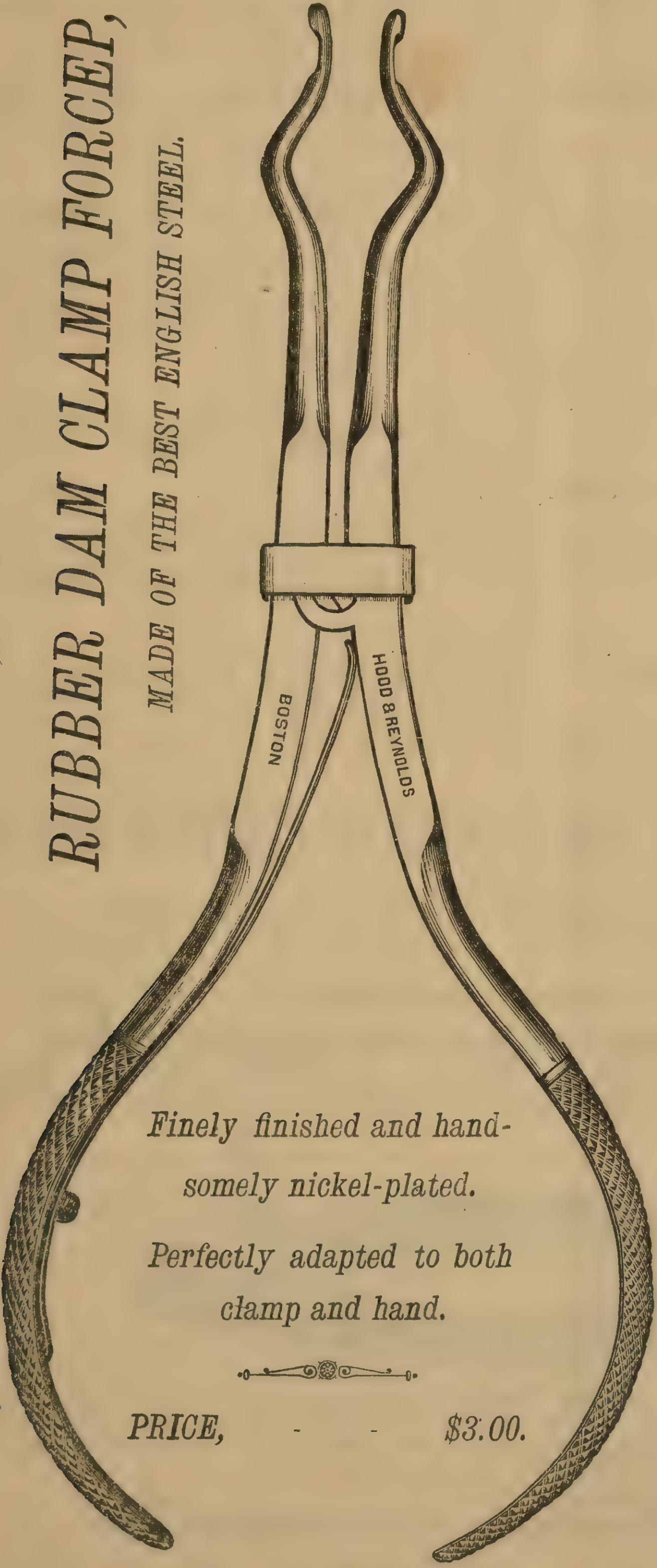
For Sale by GIDEON SIBLEY.

HOOD AND REYNOLDS'

RUBBER DAM CLAMP FORCEP,

MADE OF THE BEST ENGLISH STEEL.



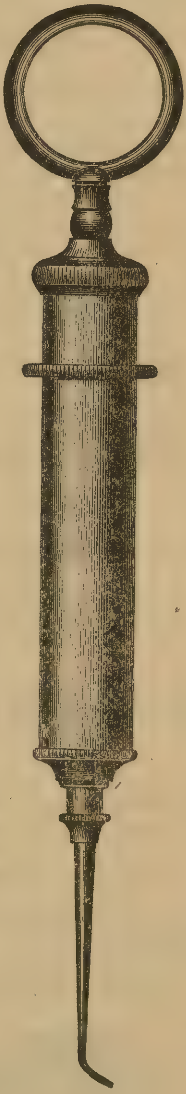
Finely finished and handsomely nickel-plated.

Perfectly adapted to both clamp and hand.

PRICE, - - $3.00.

DENTAL SYRINGE,

MADE OF BRASS, AND NICKEL-PLATED.



A PERFECT INSTRUMENT. PRICE, - - $1.25.

74 TREMONT ST., BOSTON, MASS.

1 oz. Troy, $3.00.

SIBLEY'S

TRADE MARK.

GOLD AND PLATINUM ALLOY.

This Alloy is prepared under the supervision of an eminent analytical chemist, which enables us to guarantee the chemical purity of the metals used.

Having been subjected to the severest tests before offering it to the Dental Profession, it has been demonstrated that it will not shrink or expand, nor discolor in the mouth, and can be used in the Front Teeth with better results than any other Filling except Gold.

PRICES:

1 Oz., $3.00, 2 Ozs., $5.50, 4 Ozs., $10.00.

Manufactured by

GIDEON SIBLEY,
DENTAL DEPOT,
13TH & FILBERT STREETS,
PHILADELPHIA, PA.

CARD.

IF you use other alloys and they expand, causing your patient to return, with severe pain in the tooth filled—
TRY Sibley's Alloy, *which will not.*

IF the alloy you use shrinks, thus allowing the fluids to enter the cavity, and the decay to go on as freely as before filling—
TRY Sibley's Alloy, *which will not.*

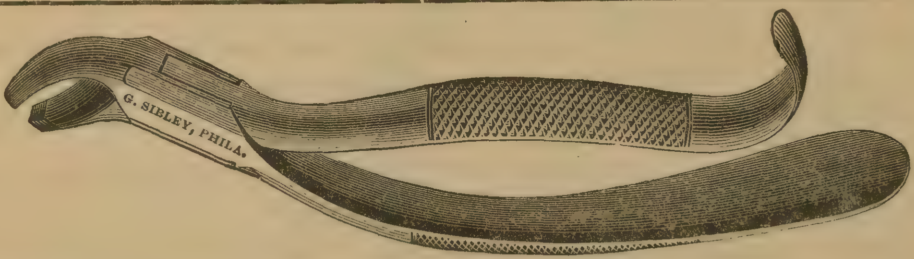
IF in using other alloys you find that they discolor in the mouth—
TRY Sibley's Alloy, *which will not.*

IF you want a Reliable Article, TRY SIBLEY'S GOLD and PLATINUM ALLOY.

We Guarantee Satisfaction.

Put up in 1-oz., 2-3-oz. and 1-3-oz. Packages. PRICE, $3.00 PER OUNCE.

SIBLEY'S DENTAL FORCEPS.


G. SIBLEY, PHILA.

These **FORCEPS** are of excellent finish—**Nickel Plated**. Their adaptation to both tooth and hand is unsurpassed. The best quality of steel is used in their manufacture, and the greatest care exercised in tempering them. Any Forceps broken, with proper use, within **one year** from date of purchase, will be exchanged.

Price, per Pair, Nickel-Plated, - - - - $2.25.
Hurd Pattern Spring Forceps, per Pair, Nickel-Plated, $3.25.

GIDEON SIBLEY,

13th and FILBERT STS. *PHILADELPHIA, PA.*

CAULK'S FILLING MATERIALS.

CAULK'S DIAMOND CEMENT.

This compound now stands without a rival. From two to four years' test by leading dentists throughout the world has proved it to be all that has been claimed for it.

It has met with a very large sale during the past four years, and the demand for it increases. It differs very materially from the Phosphate Cements, being a step in advance of them. It is easily manipulated, yet hardens rapidly, and receives a very fine polish. For pivoting teeth it has been highly recommended, is non-irritating, non-conducting, in harmony with tooth structure, has no shrinkage or expansion, and excellent for lining cavities and capping pulps.

Fillings that have been standing in the mouth *over* three years, in comparison with other plastic material in the market, show not only its SUPERIORITY, but it has proved to be *more insoluble* than many of the so-called insoluble cements.

We have increased the quantity fully one-third, and all bottles will be lettered with "CAULK'S DIAMOND CEMENT." This Cement can be made in all shades and colors.

PRICE, (two colors), grey and yellow,	per package,	$2.00
" (two colors) grey, yellow, medium, light,	" "	1.00

CAULK'S HYDRAULIC PEBBLES.

This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such material. It is harder, tougher, and stronger, resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

Its *hydraulic* qualities render it invaluable for setting pivot teeth. It is so pliable that it can be moulded or shaped into various forms, and when crystallization is complete, can be carved and polished, same as the sculptor does his marble.

PRICE, Large package,	$3.00
" Small "	1.50

CAULK'S PAR-EXCELLENCE ALLOY.

This GOLD and PLATINA ALLOY is manufactured on a new principle, has won its way into popular favor, and now ranks among the best. It saves teeth where others fail. By our new method of manufacture there is no *guesswork*, the molecular change is controlled, making each and every ingot always and absolutely alike in its properties.

PRICE, per ounce,	$3.00
" " half ounce,	1.50
" " third ounce,	1.00
two ounces for	5.00

CAULK'S WHITE ALLOY.

This Alloy is made expressly for Front Teeth,—is of a peculiar greyish-white color which will retain its brightness under all circumstances.

(Prices same as Par-Excellence Alloy.)

CAULK'S DIAMOND POINT STOPPING.

This form of gutta-percha, having been in the market for several years, has stood the greatest test of all—that of time It is regarded as the best preparation of its kind for filling teeth in the world.

As now made, it is much tougher, of finer texture, and requires no more heat to soften it. It possesses all the desirable qualities necessary for a filling-material of this character, viz., toughness, hardness, durability, plasticity, uniformity, and cohesiveness.

The Stopping is put up in *sealed envelopes*, and the Pellets and Cylinders in *sealed boxes*, each bearing a fac-simile of our signature.

PRICE, in one-eighth, one-quarter, and one-half ounce packages, - per ounce, $4.00

We make a specialty of manufacturing these materials for filling teeth.

They are standard and reliable, used and endorsed by the profession generally. They have won upon their merits, and the constantly increasing demand attests their superiority and excellence

Pamphlet of 14 pages giving full description, sent upon application.

L. D. CAULK,

Manufacturer and Proprietor, Camden, Delaware.

SOLD AT ALL DENTAL DEPOTS. **BEWARE OF FRAUDS AND IMITATORS.**

For Sale by GIDEON SIBLEY.

GIDEON SIBLEY,

DENTAL DEPOT,

S. E. cor. 13th & Filbert Sts., Phila., Pa.

TRADE GS MARK.

MANUFACTURER OF

Superior Artificial Teeth.

RELIABLE IN STRENGTH AND ADAPTABILITY.

PERFECT IN SHADE, AND LIFE-LIKE IN APPEARANCE.

UNEQUALLED IN QUALITY AND PRICE.

—Send for Prices by the Quantity.—

In ordering from Dealers be sure and specify SIBLEY'S TEETH! See that all GUM SECTIONS bear our Trade Mark as above.

ALL THE LEADING DENTAL GOODS KEPT CONSTANTLY IN STOCK.

GIDEON SIBLEY,

13th and Filbert Streets, Philadelphia, Pa.

"THE DENTAL PRACTITIONER" is from the Press of A. C. BRYSON, 21 South Seventh St.

MARCH 15th, 1883. VOL. I.—NO. 3

THE
Dental Practitioner.
A MONTHLY JOURNAL.

Published by GIDEON SIBLEY. PHILADELPHIA. Edited by CHAS. E. PIKE, D.D.S.

Office of Publication, 13th and Filbert Streets, Philadelphia, Pa.

THE BUSINESS QUALIFICATIONS OF PROFESSIONAL MEN.

BY L. ASHLEY FAUGHT, D. D. S.
(Continued from last Month.)

IN addition to the personal equipment already suggested and discussed, there are many little points, acquired principally by experience, which will contribute no little to successful practice.

Make no promise, of any nature whatever, unless we fully intend to remember and keep it Steady and careful attention to this one matter will make our word our bond. That in the press of more important business, a promise, trivial in character escapes our memory is no excuse for its non-fulfillment. The less its importance, the greater the expression of character in its fulfillment. "What!" you say. "Shall we burden our mind with every little promise made in the ordinary exchange of every day courtesies?" Certainly, the easy sentences, the easy promises to "write," to "come," etc., made so gracefully, sounding so friendly, costing so little because forgotten almost as soon as spoken; are, if broken, *lies*, and steadily undermine our reputation for truthfulness.

We must discriminate in our bearing toward patients, according to their temperament. What will do for one will not do for another. So on the other hand receive their action toward us in the same light; for instance, a patient in the chair, of a bilio-nervous tendency, makes unreasonable objections to the use of the engine in excavating; possibly, after having borne it for some time, absolutely refuses to allow its further application, even though explanation is made that it is positively necessary in order to complete the operation. Let not such things anger us, but recognize promptly that it is not the patient, but the patient's temperament that is at fault.

In conducting a line of treatment or work, of any nature whatever, never give expression to feelings of surprise at any unlooked for change or result. Patients expect that we are conversant with all possible points in whatever we do, and such manifestations to the contrary are sure to weaken our position in their estimation, as they will attribute them to a lack of knowledge or experience.

Remember, that though in many ways we are public servants, we are never bound to serve all who may call upon us. Indeed, great discrimination and judgment is necessary in deciding who we are willing to have on our roll of patients. Reference here is particularly made to cases like the following: Ladies of wealth and refinement will not infrequently ask us to give an appointment to their maid or nurse, explaining that they would not ask such a favor except for the fact that she has been in their employ for some time, and is altogether nice in person; and that their interest is such that they are willing themselves to settle the bill at our usual fees. In all such cases, we will find that our own interests are best served, in the long run, by declining to operate. It need not be done brusquely, for in a pleasant way we can say to them, that itwould give us great pleasure to do as they request, but for a rule made long ago by us not to operate for such; and that having never broken it, we would not like to do so now. It is also well not to be deceived by the appearance of those who may come to as patients. There are many whose fine manners and faultless attire are but the means to secure work for which they never intend to pay; and on the other hand some with unpretentious air are unworthy of, and able to pay for the best attention. It is a good rule, and one that will save much loss, to give all strangers calling upon us for a *line* of work an appointment at a sufficiently distant date to allow us time to institute enquiries as to their financial standing.

Always record on the day-book a concise discription of the details of an operation, *including the length of time occupied.* Such record will be our guide in treating any additional trouble that may occur, even if an interval of many years has elapsed. A knowledge of the amount of time spent over work will be our security in case of legal disputation; as it is very often, the only tangible criterion by which such judgment can be entered. As only a few moments, at best are needed to make these entries, it is an excellent plan to do so immediately on completing a service, while the patient is leaving the chair, adjusting wraps, etc. By so doing no confusion can possibly arise with other cases, nothing will be forgotten, and the mind is free for the next sitting.

The ability to nicely adjust a fee-list for our guidance, suitable to ourselves personally, acceptable to our patients, and fair to our professionol brethren among whom we labor, is a quality which will contribute largely to successful practice. In arranging this schedule we may safely suppose that the majority of patients, though not wealthy, will pay a fee for a service which we ourselves would be willing to render for similar service. Have too, the element of consistency between one fee and another in allied kind of work. Hap-hazard, indiscriminate charges, without system, will surely work us ruin. The following is suggested as an illustration of a proper table. Gold fillings at the rate of $5.00 an hour; platsic fillings, involving one surface of a tooth only, $3.00; involving two or more surfaces $4.00; lining teeth $1.00 in addition to the usual charge for filling; treating, $3.00 to 6.00 in addition; consultation, $3.00; full denture on gold, (16 teeth) $100.00; 8 to 16 teeth, $90.00; 4 to 8 teeth, $50.00; 1 to 4 teeth, $25.00; full denture on silver (16 teeth) $75.00; 8 to 16 teeth, $50.00; 4 to 8 teeth, $25.00; 1 to 4 teeth, $15.00; full denture on vulcanite, $20.00; 8 to 16 teeth, $15.00; 4 to 8 teeth, $7.00; 1 to 4 teeth, $5.00.

Having once conscientiously fixed a fee-table by which to be governed, never deviate from it, except in very special cases, and then be sure that no charge is ever made for a service of which we would be unwilling to have made the most searching public investigation. Above all things, never make a reduction in a bill once rendered. If there is a mistake in the account, correct it, but to take less is bad business policy, and always supposable evidence that you could afford to work for a smaller fee, and have dishonestly over-charged.

It is also well to render our accounts monthly rather than quarterly or semi-annually. Time effaces the details, and makes them far more likely to be disputed than if received while the memory is fresh. Moreover they are then smaller, and therefore more easily paid. Many patients are forced into the position of dishonest persons by their inability to meet a large account, when capable of settling the same amount in several smaller bills, obtained at intervals. This sending of bills promptly when due teaches our patients that we live by our practice, and if such impression is once made upon their minds we will be far more able to do so than if they suppose we have some additional income. Have our rate of fees throughly understood by our patients at their first sitting. It will save much future unpleasant embarrassment. Never refuse a fee when tendered for the nearer we keep our practice to a cash basis the better for ourselves and patients. For ourselves, in that it aids us to pay promptly, our own indebtedness. For our patients, because long standing unsettled accounts keep them from returning promptly for needed attention to their teeth. Always insist upon giving a receipt for money received and be extremely careful to immediately credit the proper account with it, before placing the amount in our pocket or drawer.

In rendering accounts never itemize, for patients are thus prevented from making unjust comparison between statements of the relative value of which they know nothing; and on the whole they will more readily pay without question an amount stated in bulk. Always, however, be prepared to furnish such items if requested. We should be careful not to incur debt ourselves, and endeavor to meet all honest debts punctually.

Remember that one cannot labor incessantly. That where an attempt is made so to do, nature will be sure to call for a cessation. To the end, therefore, that we may serve the greater number of years, and that in each hour of them, good, efficient work shall be done, see to it that we secure proper rest to our mind and body. Particularly secure ourselves from intrusion at meal time. Our success in many trying cases of daily occurrence will be largely compromised by dyspeptic suffering produced by irregular eating.

As every large manufacturing concern stops at intervals for repairs, and thoroughly renovates its machinery, so once a year, at least, everything connected with a dental office used in our daily work, should receive a thorough cleansing and restoration to absolute perfection. We, too, need to pause at times and reflect upon our business relations, to see that we are not rusting, not falling into bad ruts, or progressing too rapidly for healthy success.

In conclusion we may say that the object of our paper has been to endeavor to awake an interest in that which will contribute to success in the business side of professional life. There is much that we might yet refer to, but omit, trusting that it may soon be better said by some one of more extended experience. One thing, though, is sure; that many wrinkles are gained in our daily experience which help us greatly as an individual, and for a statement of which the gratitude of professional brethren would freely flow.

* * *

—An exchange lets fly the following: "Pulverized alum and salt put on a piece of cotton and chucked into a hollow tooth, will shut up its aching so quick you will want to hug us for telling."

* * *

—Political Economy in a Nutshell.—Tennyson can take a worthless sheet of paper, and, by writing a poem on it, make it worth $5,000. That's genius. Vanderbilt can write a few words or a sheet and make it worth $5,000,000. That's capital. The United States can take an ounce and a quarter of gold and stamp upon it an "eagle bird" and twenty dollars." That's money. The mechanic can take the material worth $5, and make it into a watch worth $100.—That's skill. The merchant can take an article worth 25 cents, and sell it to you for $1. That's business. A lady can purchase a very comfortable bonnet for $10, but prefers to pay $100. That's foolishness. The ditch digger works ten hours and shovels out three or four tons of earth for $1. That's labor.—*The Alliance.*

IMPRESSIONS.

Plaster is undoubtedly the best material for the great majority of cases presented for artificial dentures. Its quick and easy adaptation to all the inequalities of the teeth and gums, together with the celerity with which the operator can judge of its correctness, commend it to all who are familiar with its good qualities.

The preparatory wax impression should never be omitted; it requires to be trimmed so as to conform as much as possible to the shape of the mouth, the object of which is to force the plaster into every crevice between the teeth, and to hold it there until it becomes hard enough for removal, when, if successfully accomplished, all the ruga and lines in the gum and forms of the teeth can be distinctly seen and every defect discovered at a glance—an advantage not to be despised. It is here where plaster is so satisfactory—when perfect, you *know* it.

Waxing the tray before the impression is taken faciliates its removal, after the plaster cast is poured and becomes hard, by plunging it into warm water, the tray is easily taken away.

Many failures occur from using too much salt in the water—the plaster begins to harden before it can be pressed into position. When there is some difficulty in introducing the tray, warm water without salt is preferable. Other failures come from too much pressure on the posterior portion of the tray, causing folds in the soft palate; the pressure should be directly on the centre—upwards and backwards; moderate pressure is the best, just sufficient to keep the plaster firmly to the gum. After the tray is in position let the patient set upright, with the head inclining forward, thus allowing the saliva to pass out of the mouth instead of trickling down the throat; a towel placed over the patient's dress will catch all that may fall.

It may be interesting to the reader to give the history of a peculiar case that I have just brought to a satisfactory conclusion; it will also illustrate one of the difficulties we frequently have to overocme:—

The patient, a lady of middle age, had lost all of her upper teeth, at different times; the bicuspids and first molars were the first extracted; the absorption of the gum and alveoli was very complete, making the jaw just here very narrow—about one inch and a fourth in width. After wearing a plate of rubber for a few years, the remaining teeth were extracted, the alveoli of the molars absorbed, leaving the gum unusually full, soft and pendulous, swinging in and out with the motion of the tongue. In taking the impression, the plaster was placed in the mouth very thin, yet thin as it was the soft parts of the gum were pressed outwards. My usual plan in such cases is to cut off enough from these prominent parts of the plaster-cast to allow for the displacement by the impression. I thus prepared my cast, stamped a silver trial plate with a cut-out air chamber; when this plate was tried in the mouth, I found but little suction, the plate moving from right to left. With another impression and another trial plate the result was very little better. As the patient was very anxious to have some teeth for appearance sake, I mounted the teeth and let her wear them until I could make a better fitting plate. After thinking over the subject, I determined to try some plan to press *inward* the soft parts at the same time the impression was taken; this was accomplished with the preparatory wax impression, by allowing the side wax to press the soft parts in. The impression taken in this way was perfect, the plate fitted well, the suction was excellent.

W. R. HALL.

A DISSERTATION ON "THE CELL DOCTRINE."

BY HENRY HERBERT EDWARDS, D.D.S.

Read before The Alumni Association of the Philadelphia Dental College, Feb. 28, 1883,

What is a cell?

Simple as the question appears, what a volume of thought is required in order to answer it intelligently from the physiological standpoint.

Since the time of Aristotle, 384 B. C., down even to the present day, it has proven a pit-fall to all the scientific researches made by philosophers, physiologists, materialists,—or by whatever name language has endowed those men of mighty brain-power—who have essayed to fathom the inscrutable.

Exception may, and possibly will, be taken to the foregoing remark, by bringing forward the numerous and varied theories, which from time to time have been propounded; conclusive theories, illustrating the abilities of each succeeding era. The latest description of a cell is, without doubt, the best that has ever been given, namely, "The smallest portion of organism possessing essential properties for nutrition, development, growth, maintainance and reproduction." True, but nevertheless vauge; for it carries with it no definite meaning.

The physiologists are deserving of great praise for the thorough manner in which they have done their work of love, in discovering and explaining the functions of the nucleus and nucleolus, still there is a something that cannot, or at all events has not been fathomed: what is beyond?

Let us follow, for a moment, a history of their researches, for that alone is interesting. In the first place magnifying glasses of a single lens, were known as early as 500 B. C., and although it was then thought that the human body was composed of minute particles, yet there were no means of proving the fact, it not being until the year 1590 A. D. that the compound microscope was invented, which discovery was due to the Jansens—father and son. Two thousand years of ignorance, in spite of possessing magnifying glasses!

Again, it was not until nearly one hundred years after the use of the compound microscope was made known, that Borellus, of Pisa, in the year 1656, by the use of that instrument, discovered corpuscles in the human body.

The results of his investigations may be likened to the first bright streak of dawn piercing the black night-clouds of ignorance or indifference, and compelling them to roll back before the light and splendor of advancing knowledge.

Emulating his masters glorious achievements, Malpighi, in 1661, demonstrated the existence of corpuscles in the hedgehog. It is good to dwell for a moment upon the thought that these two men, master and disciple, were the corner-stones upon which has been built that mighty fabric called "The Cell Doctrine."

These discoveries were quickly followed by those of Leenwenhock, in 1673, who demonstrated the presence of cells or corpuscles in man; and he affirmed that "the cell-wall stretched with the growth of its contents, which act was clearly the result of vital phenomena;" also, "the governing force that presided over and ruled the development of cells seemed to determine them into the different tissues of the body."

Another cessation in the growth of this great study; for there is nothing of importance recorded until the year 1805, when Oken taught that animals and plants were made up of nothing else than repeating vessicles, globules, circular bodies, or granules, having no fixed size or shape.

Hensinger and Heale, 1822–4, discovered, by careful watching, that the cells overlapped each other, and, by absorption of the central portions, they formed tubes or vessels, and if absorption did not take place they made fibres.

Up to this date no mention was made of a nucleus; its discovery, in 1833, is due to the praiseworthy labors of Dr. R. Brown, of Edinburg. The nucleus he believed to be the living matter which produced the increase in size of the surrounding cells, and consequently of the tissues—they being made up of cells.

In 1838, Schleiden and Schwan demonstrated that animals and plants were built up entirely of globules, and pronounced their theory of cell-budding, *i. e.* the nucleus and cell-contents contracting in the centre, dividing into two, and growing only to be again subdivided to infinety.

Professor Huxley, in 1853, defined the nucleus as the "endoblast," and considered it was not so important as the "periblast" (the cell-wall and contents).

The various schools of physiologists seemed to differ a great deal as to the proper name with which to endow this piece of protoplasm, for we find it called a cell, vessicle, globule, granule, spherical-body, protoplasm, bioplasm, sarcode, etc. Dr. Bennett, in 1855, described the nucleus as "the ultimate part of living matter," and he experimented with clear animal effusion and watched the cells form into fibres.

The next worker in this great field of thought was Virchow, who shaped the study of physiology more than any of his predecessors. He propounded the theory of "Omni cellula a cellula," and spoke of a nucleus, cell-wall, and cell-contents as being necessary to a cell; but later on he gave up the idea of a cell-wall, though the theory of a nucleus and cell-contents he retained until the day of his death.

The nucleus, he considered to be the life, the reproductive element, or at all events, the place where life resided. He further stated that if the nucleus was healthy, its proginy were also healthy, and *vice-versa;* upon that hypothesis he built his theory of "Cellular Pathology," which is to-day regarded as the basis for the study of all disease.

In 1861, Max Schultze, described the cell as a living, moving, constructing substance, having an outside or cortical layer, within which was a fluid and protoplasm. Lydig taught that the life of a cell was an independent one; the death of one not producing the death of all.

E. Brûcki founded a school which held the views of "Dispensing with a nucleus," for he discovered certain plants, the cells of which had no nuclei.

Stricker found the same results experimenting with the eggs of a frog. Max Schultze exhibited amæbi without cell-walls or nuclei.

Cienowski, likewise brought to light monads without nuclei.

Science is indebted to Dr. Lionel S. Beale, for quite a "new departure" in regard to theories, and one that certainly is to be accepted, if alone for the sake of doing away with conflicting terms. He divided the cell into two portions, namely, "germinal matter" and "formed material;" the germinal matter possessing the power of developing pabulum into living organism, and the formed material made by the death, or partial death, of the germinal matter, being ready to perform the functions expected of it by the body. The germinal matter, he describes as a soft, translucid, colorless, structureless, active, living, growing and moving mass, which, as it advanced, left behind a trail of formed material; which formed material is a passive, non-acting substance, although capable of being acted upon.

The cells, he says, grow from within outwards; the inner being the younger portion of the germinal matter, and the outer, the older portion, changing by its death (being cut off from its supply of pabalum) into the formed material.

Having thus briefly scanned the various theories, we will add some of the latest teachings and then draw our own conclusions.

One of the most general forms of an "elementary part" is that which is commonly known as a cell. This in its complete and characteristic form, consists of a definite cell-wall, enclosing cell-contents; and the latter, whatever may be their special nature, include a nucleus, which has long been regarded as specially related to the formative activity of the cell. But there are many objections to this use of the term "cell" as indicating the elementary unit of structure. There are a large number of cases in which there is no more definite investing membrane than there is in the body of an amæba; the "elementary part" being entirely composed of a mass of protoplasm or "germinal matter," of which the exterior has undergone a slight consolidation, like that which constitutes the primordial utricle of the vegetable cell.

This is the case, for example, with the colorless corpuscles of the blood, with granulation cells and pus-corpuscles, with the corpuscles of the ductless glands, and with cells generally in an early stage of their development; the layer of "formed material" being here very thin, and its separation from the "germinal matter" being far from complete. In a more advanced condition, we find the "germinal matter" limited to a smaller proportion of the interior of the cell, so as to constitute what is known as its "nucleus," and this is surrounded by more differentiated "formed material" which may still have no definate investment. Such appears to be the case with the red corpuscles of the blood of Oviparous Vertebrata, for although these are commonly described as perfect "cells" having a cell-wall that contains the colored substance, no such cell-wall can be demonstrated, and the changes of form which these corpuscles can be made to undergo seem to disprove its existence.

Again, in cartilage we have an example in which the nucleus and cell contents are completely differentiated from the cell-wall, but the cell-wall itself cannot be separated from what has been distinguished as the "intercellular substance," which is commonly regarded as the "matrix" wherein the true cartilage cells are imbedded; and it would appear from a study of the history of its development, that the "intercellular substance," "cell-walls" and "cell contents," are all to be regarded in the light of layers of "formed material," successively exuded from the mass of "germinal matter" in which the cell originated; this, on the other hand, contracting until it remains only as the "nucleus." The most characteristic examples of fully formed and independent cells are presented to us in Fat-cells and Epithelium-cells, for here we have a definite limitary membrane, distinct alike from the contents of the cell and from the matrix in which the cell is imbedded, whilst the cavity of the cell is occupied by some product that has been elaborated by the agency of its mass of "germinal matter," which may remain to constitute its nucleus, or, in cells that have entirely ceased to participate in any active change, may entirely disappear.

The difficulty of all research may readily be conceived when we consider that the smallest portion of protoplasm demonstrated is but the .00001 of an inch in diameter.

A cell, then, in the language of physiology, is a closed vessel or minute bag formed by a membrane in which no definiate structure can be discerned, and having a cavity which may contain matters of variable consistence; but which possesses in itself the power of growth and (in its typical condition at least) of multiplication also. In such a cell, every organized fabric, however, complex originates.

The various forms of cells are as follows:—Spherical, oval, polyginal, hexagonal, squamous, tesselated, columnar, cilliated, unipolar, bipolar, multipolar, spindle-shaped, tadpole-like, and stillate, all of which are found in various parts of the body.

Every kind of cell has its own specific endowments; and generates in its interior a compound peculiar to itself. The nature of this compound is much less dependent upon the nutriment materials which are supplied to the cell, than upon the original inherent powers of the cell itself, derived from its germ. This substance was termed "sarcode" by M. Dajardin, who first drew attention to its peculiar nature as exhibited in animalcules etc. Among those who have studied its characters in the higher animals it is commonly known as "blastema" or "formative material," while Dr. Beale, who has greatly extended our knowledge of its endowments and of fundimental importance in operations of nutrition, has designated it by the term "germinal matter."

In the young cell the germinal matter preponderates, but as the age of the cell advances, opposite results take place, the germinal matter aiding its own death by shutting itself completely off from its supply of pabulum, in its laudable efforts to supply the tissues with formed material; giving, thereby, to the moralist a splendid example of self-sacrifice in the performance of duty.

Cell formation resembles the three epochs of life—infancy, manhood, old age,—once strong, twice weak.

The germinal matter assimulates to itself from the blood, as much pabulum as it requires, the pabulum passing in through the formed material by means of minute vessels. If the germinal matter assimulates an excess of pabulum, hypertrophy is the result; on the other hand, a deficiency of pabulum constitutes atrophy of the cell, and diminution in the member of cells causes atrophy of the tissues.

Science has not yet determined what that substance or fluid is that lies between and surrounds the cell; it may be pabulum or the fluid in which the cell is nourished, or it may be an oozing out of something from the cells; whatever it be, it is said to contain water and certain gases.

A deficiency of pabulum may bring about a pathological condition of the cells, and diseases may be communicated from one kind of cell to its fellows by means of connecting filaments.

The cell-wall (if that theory be accepted) is composed of either albumen or one of its derivatives; it is with regard to the nature of the contents that the greatest diversity of opinion exists.

Theoretically we are taught of hereditary transmission of impressions, and it certainly seems possible; when we consider that, according to Harvey, "Omni vivam ex ovo." Memory certainly must be due to the handing down from one cell to its offspring, the received impressions; also in cases of hereditary diseases, it seems conclusive that the sperm-cell should contain granules of such disease.

We learn that in sickness a great mass of germinal matter dies, and if there be not sufficient pabulum in the blood to construct new cells, to replace the wear and tear, physiological waste of the tissues ensues and death is the result.

The animal cell is in all essentiul particulars the same as that of the vegetable, with this exception—that the animal cell derives its nutriment from organic compounds, previously elaborated, instead of generating them, like the plant, at the expense of inorganic elements. It lives for itself and by itself; being dependent upon nothing but a due supply of aliment and heat, for the continuance of its growth, and the due performance of all functions until its term of life be expired. In whatever method it originates, it attracts to itself, assimulates and organizes the particles of the nutrient fluid in its neighborhood, in this manner gradually increasing in size, and whilst approaching the term of its life, it may make preparations for the development of reproductive particles in its interior, which may give origin to new cells when set free from the cavity of their parent.

Thus then we see that our fundimental idea of the properties of the simplest living matter consists in this,—that it has the capability of drawing into its own substance certain of the elements furnished by the inorganic world, -- that it forms these into new combinations,—that it re-arranges the particles of these combinations in that peculiar mode which we call "organization,"—that in producing this new arrangement it renders them capable of exhibiting a new set of properties which we call "vital," and which are manifested by them either as connected with the present organism, or as appertaining to the germs of new structures, according to the mode in which the materials are applied,—that notwithstanding its peculiar condition, it remains subject to the ordinary laws of chemistry, and that decomposition of its structure is continually taking place; and finally, that the duration of its vital activity is limited, the changes which the organic structure undergoes in exhibiting its peculiar actions, being such as to render it (after a longer or shorter continuance of them) incapable of any longer performing them.

More, much more, could be said on this grand subject, but we must abstain and bid it adieu, with one closing thought.

One cannot pursue science without acknowledging a great first cause—a God. Huxley, who, however, is no atheist, says that "even the thoughts to which we give utterence are the result of molecular motion." We are glad that we are taught not to accept that statement, for we are bound to admit that behind all there is a something that cannot be explained—the Soul of man. That is the "terra incognita" of scientists; and when Huxley claims that his statement is true, he also adds that he considers materialism involves grave physological errors. We can only go so far as to say that the intelligence, ghost, or life of the cell seems to reside in the germinal matter, for if that dies, there is an end to the existence of the cell; and that the germinal spot is formed of a certain material, endowed by a Supreme Power with singular properties that develope the capital cell into whatever it is destined to be.

To conclude, then, we only know of life, as exhibited by an organized structure, when subjected to the operation of certain "forces" which call it into activity; and we only see vitality or the state or endowment of the being which exhibits that action as conjoined with that particular aggregation and composition which we term "organization."

Therefore, if we endeavor to assign a cause for the existence of a cell germ, we are led at first to fix upon the vital operations of the parental organism by which it was produced: and for these we can assign no other cause than the peculiar endowments of its original germ, brought into activity by the forces which have operated upon it. Thus we are obliged to go backward in idea from one generation to another; and when at last brought to a stand by the origin of the race, we are obliged to rest in the Divine Will as the source of those wonderful properties by which the first germ developed the first organism of that race from materials previously unorganized; this organism producing a second germ, the second germ a second organism, and so on without limit,. by the uniform repetition of the same processes. Yet we are not to suppose that the continuation of the race is really in any way less dependent upon the will of the Creator than the origin of it.

For whilst science leads us to discard the idea that the Deity is continually interfering to change the workings of the system He has made,—since it everywhere presents us with the idea of uniformity in the plan, and of constancy in the execution of it,—it equally discourages the notion entertained by some that the creation of matter, endowed with certain properties, and therefore subject to certain actions, was the final act of the Deity so far as the present system of things is concerned, instead of being the mere commencement of His operations. If it be admitted that matter owes its origin and properties to the Deity, or, in other words, that its first existence was but an expression of the Divine Will, what is its continual existence but a continued operation of the same will? To suppose that it could continue to exist and to perform its various actions by itself, is at once to assume the property of self-existence as belonging to matter, and thus to do away with the necessity of a Creator altogether, a conclusion at which it might be safely affirmed, that no ordinarily constituted man can arrive, who reasons upon the indications of mind in the phenomena of nature, in the same way as he does in regard to the creation of human art.

What will be "The Cell Doctrine" at the expiration of another thousand years it is impossible to say, though we are afraid it will prove to be a second Tower of Babel to the "Students of Force and Life" as they find them.

IN MEMORIAM.

MARSHALL H. WEBB, D.D.S.

At a meeting of the Odontological Society of Pennsylvania, held January 6, 1883, the following was adopted as a tribute to the memory of a late fellow member:

"We desire to express, as far as words can, our deep sorrow for the death of MARSHALL B. WEBB, D. D. S, and our recognition that with him we have lost not only a most worthy member but a sympathizing friend. With deep regret we realize that we shall never again listen to his gentle voice nor feel the force of his personal magnetism.

"Death never enters into any family, a group of friends, or an association of any kind, but it trails a shadow to darken some life, to sadden some heart and render obscure the pathway of the future.

"In the death of our colleague and friend we recognize the full force of this, for he not only leaves a sorrowing family but his departure involves a large circle which has felt his influence, and will continue to feel it far into the future.

"Dr. Webb was no ordinary man. He was essentially a leader, not in the sense of arrogant assumption; but as one who took his place through earnest toil, unselfish devotion and conscientious ambition. He labored that others might grow. He mined that the professional fires might burn all the more brilliantly and though his day was short, every hour was full, and the record thereof may be filed away in the hearts of his friends with the indorsement, 'Well done, good and faithful servant.'

"The hour of death is not the hour for critical judgment. Dr. Webb's work belongs to his profession. The ideal that he labored for was his ever constant inspiration. To accomplish it no sacrifice was too great, no labor too exhausting. No life can be valueless that aims at excellence; but how much more worthy of emulation is the harvest when gathered with the golden grain ripened to perfection? In his special work our friend reached an acme of skill beyond which he had no superiors. Perhaps he may not have always worked wisely; it may be that his unswerving devotion to his ideal brought him to suffering and death; but if so, he leaves a monument in his example that will be an honor to his name and a glory to his profession.

"We wait, watch and linger by our dead. Their memory hallows our lives, their deeds are graven on sorrowing hearts: but as we linger, the funeral knell reminds us again that change is the law of the universe and that, in the translation of another we inherit the work of a life, which should be an ever present incentive abiding with us forever.

"*Resolved:* That a copy of the foregoing be transmitted to the family of the deceased with the assurances of our deep sympathy with them in their affliction, and also forwarded to the dental journals for publication."

THE DENTAL PRACTITIONER.

CHAS. E. PIKE, EDITOR, 1415 WALNUT ST.

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—AT the Twentieth Annual Commencement of the Philadelphia Dental College, the degree of Doctor of Dental Surgery was conferred upon 55 graduates. The address to the graduates was delivered by Prof. Thomas C. Stellwagen, M. D., D. D. S., and the Valedictory by Stephen S. Willard.

—AT the Twenty-seventh Annual Commencement of the Pennsylvania College of Dental Surgery, the degree of Doctor of Dental Surgery, was conferred upon 58 graduates. The address was delivered by Prof. T. L. Buckingham, D.D.S.

—THE Alabama State Dental Association, and The State Board of Dental Examiners will meet at Montgomery, Ala., on the 10th of April, and continue in session three or four days.

—THE South Carolina State Dental Association, will hold its Thirteenth Anual Meeting at Aiken, S. C., on the 17th day of April.

—THE Fifth District Dental Society of N. Y., will hold its next meeting at the Butterfield House, Utica, N. Y., on April 10th and 11th.

—THE Seventh Annual Meeting of Vermont State Dental Society, will be held in the Parlors of the Bates House, Rutland, Vt., Wednesday, March 21st, at 7.30 P. M , continuing through Thursday and Friday.

—AT the Annual Meeting of the Alumni Association of the Philadelphia Dental College, February 28th, 1883, the following officers were elected for the ensuing year :—

L. Ashley Faught, D. D.S., Philadelphia, President.

B. C. Cornwell, D. D. S., New York, 1st Vice President.

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Executive Committee.—Drs. Eisenbrey, Graves, and Pike, of Philadelphia.

Several interesting papers were read, one of which is published in our present issue. Others will follow in succeeding numbers.

In the evening the members of the Association enjoyed the Annual Banquet at St. Georges' Hall, where short and appropriate speaches were made by Dr. C. E. Francis, of New York; Drs. Tees, Faught, Eisenbrey, Dickey, and Ward, of Philadelphia, and by Dr. Horn, of Switzerland.

The prevailing opinion seemed to be that this was one of the most enjoyable re-unions in the history of the Association.

—BEING desirous that the DENTAL PRACTITIONER shall become a popular medium for the interchange of views, and different methods of practice among members of the profession, we hope our readers will not forget that its pages are open for such communications as will prove of general interest, and that they will find time during their leisure moments to jot down any particular line of practice in special or general cases, which they find more satisfactory than others, for the benefit of their fellow readers.

We are aware that the majority of dentists are not what might be termed great writers, but very many of them could, if they would, communicate something concerning their own individual practice which would interest and instruct the profession at large.

Let such as can perform this service—*do it*, and let the DENTAL PRACTITIONER be the messenger to bear the glad tidings.

◆

—FROM its small beginning, the *Items of Interest* has gradually grown and improved, until with the February number it is issued in magazine form, presenting a very neat and creditable appearance. We think the change will be appreciated by its subscribers.

◆

—DR. C, N. PEIRCE contributes an article to the March number of the *Dental Cosmos* in which he makes the following timely suggestions. It must be apparent, to all who take an interest in such matters, that a uniform nomenclature for the low forms of life would materially assist investigators in an intelligent interchange of views, and would better enable their readers to understand what they *do* mean when they record the results of their observations.

We sincerely hope measures may be taken to accomplish this most desirable result, and give us a common language upon this point which all may understand.

"In pursuing microscopical investigations similar to those of which Dr. Miller has so successfully given us the results, great advantage would be gained if we could have a uniform nomenclature. Leptothrix hairs or threads are so throughly understood in their appearance, habitat, development, etc., that probably no better term could be suggested than 'leptothrix buccalis'—slender hairs in the mouth. The terms adopted by Dr. Miller for the products which he calls bacilli and micrococci—may be very appropriate, yet his illustrations of these organisms resemble so nearly the vibrio of previous experiments that it is certainly very hard to distinguish between them, and unless it can be shown that their origin, location, pabulum, and movements materially differ, "vibros" would be the better term, though I am aware that the doctor makes a distinction between them. Dental bacteria, denticola, torula, protococcus dentalis, cryptococcus cerevisiæ are all terms which have been used. The latter means a cell or capsule; torula means a succession of cells united like a chain. The last three terms, together with the sprosspilz of Dr. Miller, are all evidently intended to allude to the organisms multiplying by gemmnation or budding, and by fermentation making solutions of organic matter acid which were previously saccharine, alkaline, or neutral. Torula or dental totrla would certainly be an appropriate term to represent this organism. Denticola and dental bacteria have evidently been used to represent the round and half-round shapes found in putrefactions. Dental bacteria would probably represent these. When we come down to the borders of inorganic matter, to the beginnings of life, as it were, and with a lens representing a power of one thousand or fifteen hundred linear diameters, and an area the square of that, and these atoms possessing a constant vibrating, quivering motion, it seems almost bordering on the imaginative to attempt to differentiate these cells and distinguish between them and the disorganized and decomposing tooth-tissue surrounding them. Especially is this the case when we recognize how difficult it is to define the shape of vibrating matter when it is viewed with a lens which from its exalted power necessarily cuts off so large a proportion of the light."

◆

—A CORRESPONDENT of the *Medical News* sends that journal the following communication, which, to a certain extent, corroborates the statements we made in a previous issue concerning the lack of information among physicians with regard to diseased conditions of the teeth and their treatment:

To the Editor of THE MEDICAL NEWS.

"SIR: Feeling it to be the duty as well as the privilege of every physician to make known to the profession the utility of any agent which he may have found beneficial in relieving pain or curing disease, I send you my experience in relation to carbolic acid as a remedy for toothache arising from caries.

About three months since I was distracted with toothache for about twenty hours, during which time I tried all the known remedies, but in vain. At last it occurred to me to try pure carbolic acid, and although at first I felt a little diffident, having never heard of its use in this way before, I applied it, and, to my great relief and agreeable surprise, the pain ceased instantly, and did not return.

Having to deal with a large number of the poor in my dispensary practice, I have rejoiced in being able to afford similar relief to many sufferers. One poor woman, in an advanced state of pregnancy, had not enjoyed a night's rest for nearly two months; but after a little patient application I was able to send her away rejoicing, and I have not heard of the tooth troubling her again.

Desiring that others may share in the luxury of *doing good* in this way, as well as receiving relief, I append the *modus operandi* adopted.

1st. Clean out and dry, by means of absorbent cotton, the cavity of the tooth.

2d. Apply the acid thoroughly in the following manner: Take a piece of *wood*, according to the size of the cavity (a toothpick or a match will do), and dip the end into carbolic acid—*full strength;* should the hole be very large, a very small portion of cotton may be twisted around the end of the piece of wood. Care is required not to touch the surrounding tissues. It is scarcely needful to add that the acid crystals only need to be warmed to render them soluble.

The foregoing applies especially to odontalgia cariosa, and to odontitis; but it will also prove serviceable where the fangs of the tooth are affected, especially if they are accessibly exposed.

I am, dear sir,

Yours respectfully,

GEORGE D. DOWKONTT, M.D.,

Med. Sup't. N. Y. Medical Mission."

We congratulate the doctor upon his discovery, and commend the spirit which prompted him to give his brother practitioners the benefit of it.

Considering the fact that Carbolic Acid was discovered nearly a half a century ago, and that for at least forty years it has occupied a conspicuous place in the dental materia medica, being also mentioned in the United States Dispensatory in this connection, it is a little singular that he has "never heard of its use in this way before." Nevertheless, he has stumbled upon a really *good thing*, and we hope he may often have occasion to rejoice in being able to afford relief by its use. We fear, however, he will not derive much satisfaction from its application to "fangs" (?) unless it is used for its antiseptic and disinfecting properties.

"ABOUT IMPRESSIONS" AND OTHER THINGS.

BY DR. L. P. HASKELL.

THERE is so much written and taught in dental journals and colleges, or some of them, of methods in metal work that ought long since to have become obsolete, that I feel impelled to write a few thoughts that may be helpful, for the benefit of the younger members of the profession, and those who are about to commence practice, and who so often become discouraged at the drawbacks they meet with in consequence of the annoying and uncertain methods in which they have been instructed, that they prefer to stick to "rubber" work.

Fine-spun theories about the shrinkage and expansion of plaster are well enough to talk about, but when offset with successful results in a 37 years' practice, confined to the mechanical department, in which such theories have been entirely ignored, they are of little account.

To say that plaster will not make a sharper impression than wax or modeling compound, is arrant nonsense; and to compel a student in college to spend weeks of valuable time in learning to take wax impressions (and I have known some such, who, after graduating, could not take a plaster impression successfully!) is an imposition that ought not to be tolerated.

After the impression, the next move is preparing the model or cast for moulding. Here again come in nonsensical theories about the use of shellac and oil in filling the impression, etc. Thin shellac strikes in to the plaster, and does not make an increase of thickness on the surface that is of any account whatever, while it is of value in separating the impression and cast, so as to see plainly what is one or the other. The thin coat of oil is equally unobjectionable.

In dispensing with defined air chambers, which are superfluous, the plate should be raised over the hard palate, slightly. There are two methods of doing this: one is to scrape the impression, and the other to raise with a thin film of wax the plaster cast. I have heard of a professor in a dental college instructing his pupils to take a piece of lead and lay it upon the die, and swage the plate over it! The method ought to be patented. Scrape the rear of the cast slightly between coronoid process and near to the centre. from where the edge of plate would come, *forward* ¼ of an inch.

Make the cast flaring all around, so that it may *drop* from the mold readily, bearing in mind that the cast will deliver itself from the mold if thus flared with less tearing away than can possibly be done by lifting it out.

If the case is badly *undercut*, make a "core," thereby avoiding, in a simple way, the necessity of using the so-called Hawes' Flask. After the cast is shellaced, oil the portion that is undercut, and spread on a thin coat of plaster and asbestos, say ¼ inch at the base and so to a thin edge at top of cast. This must be thoroughly dried, no matter how rapidly; then putting in place on the cast, mold, and as it drops out with the cast replace it in mold, and pour the metal.

For dental dies there is but one metal that fulfills all the requirements—which are *non-shrinkage*, *hardness*, *toughness*, *smoothness*—and melting at a low temperature, and that is Babbitt metal. But, remember, that all sold by that name is not fit for the dentist's use, because it is made for another purpose and is not needed so hard. To insure the proper article, make it as follows: 1 part copper, 2 parts antimony, 8 parts tin. Melt in a crucible, in a forge, *in the order* named. As soon as the tin is put in turn off into ingots and re-melt. For the the counter die use lead, with 1-6 to 1-8 tin added to reduce the melting temperature, and also harden somewhat the lead. Coat the die with whiting and don't turn the lead too hot. If your Babbitt metal is thick and does not flow readily, add more tin. Thirty year's use of this metal, after using zinc, tin, etc., has demonstrated it to be at once *simple*, *expeditious and reliable*, *every time*.

Sand moistened with olive oil is of great advantage in that, it is always ready for use, not needing to be renewed for weeks or months. The odor from it is not to be compared with that of vulcanizing of rubber.

In view of such results, it is a pity that students should be compelled to devote so much precious time to the making of zinc dies, a method that is perplexing, slow, and uncertain in results, and which should, long ago, have become obsolete. We are told, by its advocates, that the shrinkage of zinc is n cessary! If the plaster cast represents the mouth, and I hold that it does, why not fit the plate to that? This the Babbitt metal die will always do, and I find, as a matter of course, the plate fits the mouth, and secures to me the most satisfactory results in what is considered the most difficult class of work, viz: the heavy, continuous gum work.

In swaging plates, use what is known as *lower* bending pliers for both upper and lower plates, and also the wood and horn mallets. Neither of these tools do any harm to the metal, and greatly aid in the process.

Oil both dies, and if careful to wipe off any base metal that may adhere, and which can readily be seen, there will be no need of putting the plate in acid before annealing, as some teach, but do so *after* annealing, so as to see what may be on the surface after swaging.

Don't hesitate to cut your full upper plate in front and lap it, for while it saves time and annoyance, it also increases the strength of the plate at the point where there is the most strain, and if the teeth are to be soldered on, there is far less danger of the plate warping than if it had benn cramped into an unnatural condition by swaging without cutting.

Learn to use the mouth blow-pipe, even if you should afterward make use of a self-acting one. A blow-pipe should have a large mouth-piece, so as to rest it against the lips and not between them. In order to blow a steady blast, do not let your "wind-bag" collapse, in other words, keep the diaphragm distended all the time, then you can keep up a steady blast with the cheeks, taking in your supply through the nose.

The practice of soldering and finishing the backings before soldering to the plate, is all very well for those who have the time thus to putter. But time is saved and just as good work the result, by a simpler method. Invest plate and teeth in plaster and sand (which is preferable to asbestos, because it is not so yielding in backing up) and in a sheet-iron ring; use thick gold, say about guage 24; round the top of each backing and chamfer the edge; split the pins and cut off the surplus with a sharp tool; have the plate clean, and the easiest way to do it is to wash off the wax by dashing on boiling water; use plenty of borax; I prefer the pulverized, wetting it up on slate or glass, putting it on with a stick or brush; cut the solder *small* and put it where you wish it to remain. I use 20 carat gold and 20 carat solder; if your solder is what it ought to be it will flow like water, and leave a smooth surface, needing only to *burr* off the heads of pins. Polish with pumice on a pine stick in the lathe, and brush, and oil. Soft brushes, small sizes, will do the most effectual work, as they *hold* the pumice, while the stiff ones throw it off.—*Ohio State Journal of Dental Science.*

* * *

—KAIRIN.—A new alkaloid, called "kairin," is about to appear in the drug-market, for which are claimed antipyretic properties, unaccompanied by the slightest tendency to produce local irritation. It is proposed as a substitute for chinoline, itself a substitute for quinine. Drs. Fischer and Wilhelm König, of Munch University, assisted by Professor Filehne, of Erlangen, have found that those hydrides of chinoline, in which the nitrogen atom is in direct combination with the carbon atom of a methyl group or of another alcohol radical, all possess more or less the properties above mentioned as pertaining to kairin.

Kairin is the name given by the authors to oxychinoline-methyl-hydride.

Kairin hydrochlorate forms a light grayish-yellow crystalline powder. It is soluble in water, and has a bitter, aromatic taste.

The authors have found that, beginning with doses of from 0.3–0.5 to 1.0 gm. of the above salt, and gradually increasing the dose 0 5 gm. each time, the doses being repeated at intervals of an hour, after the fourth dose the body-temperature may be reduced to 37° C., or even 36.5° C., without any symptoms of local irritation; and they hope that the substance will prove useful in all forms of fever.—*The Druggists' Journal.*

◆

—THE ETHER SPRAY AN IMMEDIATE CURE FOR NEURALGIA.—Dr. McColganan extols the value of the ether or rhigolene spray for the instantaneous relief principally of facial neuralgia. He first had occasion to observe its good effects upon his own person, he having suffered greatly from facial neuralgia. Since curing himself, he has had occasion to test its efficacy in about twenty cases. The result was invariably a most gratifying success. In many instances a permanent cure was established. He attempts to explain its action by supposing a complete change to take place in the nutrition of the affected nerve in consequence of the intense cold acting as a revulsive. —*Medical Times.*

◆

—TO PREVENT RUST.—It is said that the best plan to prevent tools from rusting is the simple prepration employed by Prof. Olmstead, of Yale College. It is made by the slow melting togather of six or eight parts of lard to one of rosin, stirring till cold. This remains semi-fluid, ready for use, the rosin preventing rancidity and supplying an air-tight filan. Rubbed on a bright surface ever so thinly, it protects and preserves the pollish effectually and it can be wiped off nearly if ever desired, as from a knife blade; or it may be thinned with coal or benzine. If oxidation has begun, no matter to how slight a degree, it will go on under the coating; it is therefore essential that the steel or other surface be both bright and dry when filmed over.

◆

—TO BEND GLASS TUBES.—A thin glass tube of the size of the finger is difficult to bend without its being flattened at the place it is to be bent. It has been suggested that this may be overcome by filling the tube with sand, and then heating the tube with the sand in it, when it will bend without wrinkles or without flattening. The tube should be held at a tangent over the blaze of a spirit lamp and not across, and when heated enough may be bent as desired, either by its own weight, or with the assistance of the other hand.—*Journal of Education.*

◆

—M. POTEL has recently submitted to the French Society of Encouragement a new substance, which he has named, after himself, "poteline," and which appears to be susceptible of numerous applications. It is a mixture of gelatine, glycerine, and tannin, and is, according to the inventor, absolutely impermeable to the air. When warmed, it becomes liquid, or nearly so, and takes all the contours of an object. M. Potel has made corks of it, which form an economical substitute for metallic capsules, and secure an hermetic closing. He has used it as a coating to preserve meat. At a temperature of 112°, it envelops the meat, kills the germs of putrefaction, and prevents any new germ passing in. According to M. Potel, meat thus treated will retain all its freshness for two months.—*Popular Science Monthly.*

◆

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1883

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GEO. WATT, M.D., D.D.S., Editor, Xenia, Ohio.

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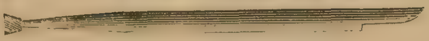

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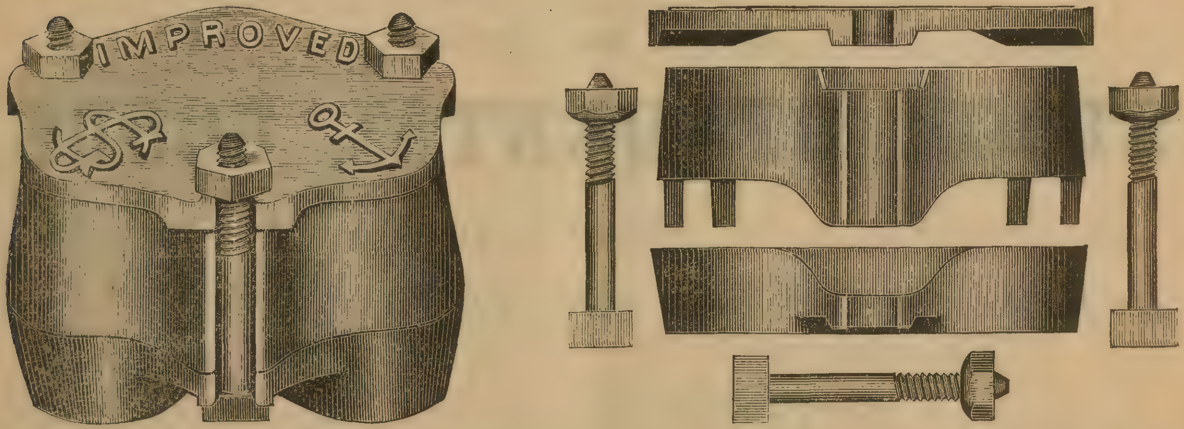

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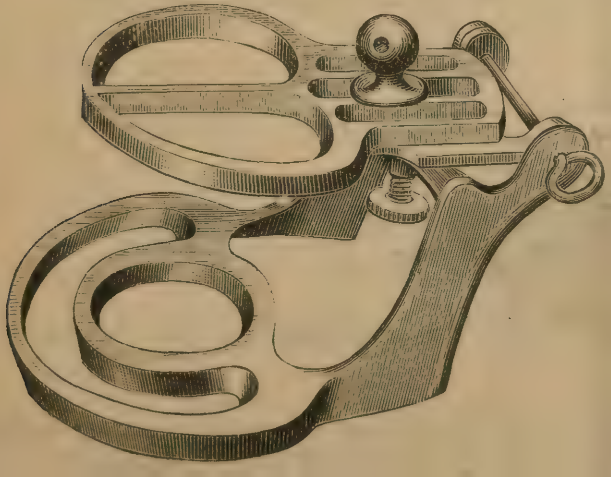

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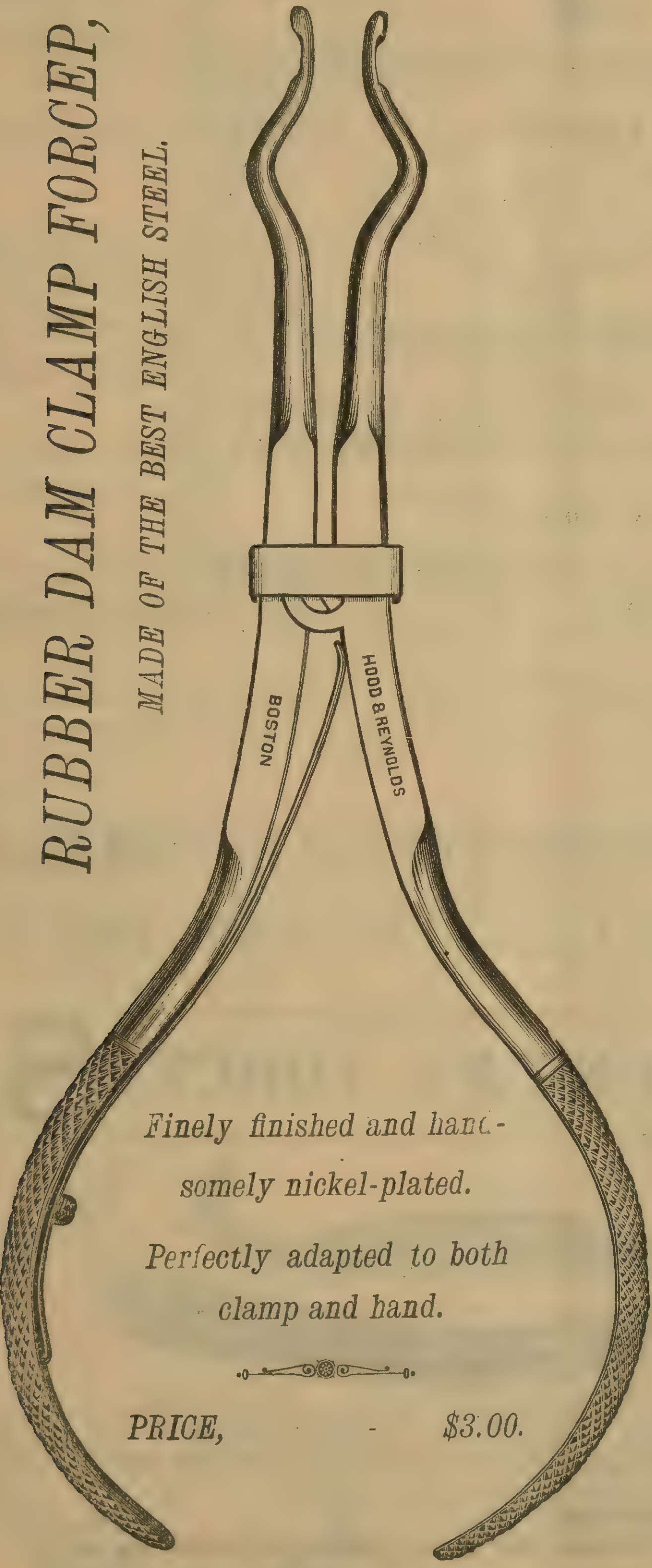

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IF in using other alloys you find that they discolor in the mouth—

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CEMENT.

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MEDIUM LIGHT,

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From two to four year's test by Leading Dentists throughout the world has proved it to be all that has been claimed for it.

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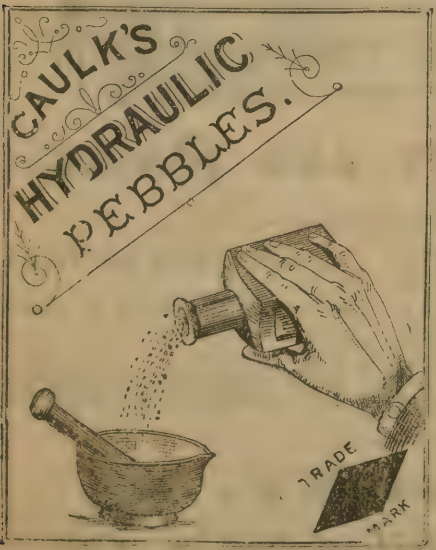
This Alloy is made expressly for front teeth, is of a peculiar grayish-white color, which will retain its brightness under all circumstances. Price same as Par-Excellence Alloy. Two ounces, one of each, for $5.00.



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This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such materials. It is harder, tougher, and stronger, resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

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PERFECT IN SHADE, AND LIFE-LIKE IN APPEARANCE.

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"The Dental Practitioner" is from the Press of A. C. BRYSON, 21 South Seventh St.

APRIL 15th, 1883. VOL. 1.—NO. 4.

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Dental Practitioner.
A MONTHLY JOURNAL.

Published by GIDEON SIBLEY. PHILADELPHIA. Edited by CHAS. E. PIKE, D.D.S.

Office of Publication, 13th and Filbert Streets, Philadelphia, Pa.

ADDRESS TO THE GRADUATES OF THE PHILADELPHIA DENTAL COLLEGE, FEBRUARY 28, 1883.

BY THOS. C. STELLWAGEN, M.D., D.D.S.,
PROF. OF PHYSIOLOGY.

GENTLEMEN: — The familiar words, course and curriculum, so commonly employed in relation to colleges and studies, are derived the first from the general term for the places at which the Romans held their contests for both physical and mental superiority, and the last from the light chariots used at their races. These words remind us of the interesting and instructive work of Dean Dr. Alford, entitled "The Queen's English," wherein to show the importance of language to the people at large, he very aptly likens it to a highway over which the interchange of information and thought, is rendered capable of being effected with more or less facility, according to the perfection of adaptation of the road and the vehicles that are used in the traffic.

It cannot be gainsaid that everything which invites to the acquisition of skill in, or tends to facilitate the pursuit of, knowledge, in like manner may be regarded as of grave consequence to the world, and is directly of value to all men in proportion as they are benefitted by the diffusion of carefully collated intelligence and the cultivation of the means of its application to meet their own necessities. Where the art of healing has been most successfully cherished and advanced to the highest condition, the community has ever been most elevated and benefitted itself, by the economic principles resulting from the application of the safest and surest methods of preserving or restoring the health of its members, and thus reducing to a minimum those serious and painful interruptions caused by disease. In addition to the teachings of the higher motives of humanity, political economy shows that nations must foster every means of imparting the true science and art of medicine. Hence every form of government has from the earliest period of history given attention to the establishment and the enhancement of such learning.

For this reason the Egyptians, at the supreme height of their greatest development, recognized the necessity for a division of the then already enormous work under different heads, that it might be more effectually performed. Yea, farther, they practically taught the indispensability of the specialities of the healing art, among which dentistry bore a highly important part even at this very remote period. The example of this ancient people has been followed until a nation's rank may be most readily gauged by observing and comparing the attention paid to the completeness of its means of instruction in the various divisions of this science and art, under the protection of which man develops and maintains that most exalted perfection of *mens sana in corpora sano.*

It is an axiom that the foundation of the vigor of the body, rests upon the capability of the digestive apparatus to assimilate food. The initiatory and important processes of this function take place in the mouth. To preside over and care for the management of this portion of the system, is now the duty of the oral physician and surgeon, who from the fact that he holds the key of the propylæum to this labyrinthian laboratory, is peculiarly fitted for and continually assigned to and invested with the responsibility of the charge of that whole apparatus. From constant observation of the mouth the dentist is made familiar and intimate with the sympathetic effects shown therein, as results of the numerous and varying stages of the disturbance of digestion. Therefore any attempt to teach or practise our specialty, would be lamentably lame without the physiological study of nutrition both in the ultimate cells, as well as in their associations as organs. Indeed, it is only in this way that one can be prepared for the understanding of the multiple processes involved in this function of the economy. With a keen appreciation and lively recognition of the demands made by the highest civilization, our advanced practitioners have devoted much attention to this study. The pleasant duty devolves upon me to bear testimony to the unusual proficiency attained by this evening's class of candidates for the world's acceptance as doctors of dental surgery. Likewise I can further speak for my colleagues of this faculty, that we take great pride in the fruits of our united labors as shown by your accomplished and deserved acquirements. Probably nothing has more generously contributed to this fortunate condition, than the preparatory reading that so many of you have availed yourselves of in commencing your connection with this school. This has been largely due to the pursuit of a course of home study under the guidance of a carefully selected series of questions, with which you have been furnished by the Dean, to whom belongs the credit of suggesting and perfecting the preliminary course. Results have proven this to be a greater incentive to intelligent study, than even its most earnest advocates had anticipated. So great has been the approval of those who are actuated by a desire for more light that, our list of matriculates to-day exceeds the most sanguine expectations of the friends of the college, and it now becomes obliged to seek larger apartments and increased size of the accommodations for its coming classes of students.

This success is an evidence that among those about to enter our profession there is an appreciation that in addition to the highest manipulative skill something still higher is now demanded of the practitioner of dental surgery. To be able to make good fillings, or perfect-fitting artificial dentures, is quite essential to success, but above and beyond all this comes the need of that knowledge which can best guide and care for the general functions of the body, so as to secure health, the greatest of physical blessings.

The future opens to you a field of usefulness and responsibility that will require the most careful and conscientious study of the functions of each one of your patients, and in proportion as your judgment becomes more and more correct, you will be more useful to those whom it may be your duty to assist. Connected with this there is a certain necessity for manual dexterity, that in no way belittles or lessens the importance of your life-work. On the contrary it demands one of the most rare combinations of both mechanical skill and scientific judgment. The practice of medicine compels its devotee to put forth a large amount of physical exercise in passing from one to another of the bed-ridden patients, who implore his scientific aid, and yet this in no way detracts from the dignity of that practice.

Advance is the watchword of profession, and amid the jealousies of those of that numerous class who are ever ready to frown upon any step for improvement, the majority of our practitioners have ever pursued an upward and onward course towards that elevation which sooner or later many must reach. In the growth of a tree we may picture the lesson which history teaches. Surrounded by other professions; proud in their position and height, it was forced to live under the shade of those who would stifle and hide it from the sunlight. As it has pushed out branches often they have been pruned away, but this only threw more vigor into the main stem and rendered the wood more compact and solid, thus it became better able to sustain its top. When the winds that sweep the forest are felt by this ambitious one, whose destiny is upon a plane with them all, it will survive the gale.

Called into existence by the growing neglect to attend to the nutrition of the body, in the hot haste of the race for position and power, the dental surgeon has long witnessed his chosen profession lifted in importance and increasing the need for his every attention. Consumption and other diseases, that baffle the skill of the physicians, have perversion of nutrition as the point of attack from which they work their disastrous ruin upon mankind. Observation has discovered and sickness has demonstrated that many of the most serious diseases have their incipiency markedly disclosed by the conditions of the teeth and the oral cavity generally. Practice has repeatedly proven that the cure of those dental diseases that encourage and foster the abnormal discharge of function, assists in breaking up that perversion. To effect the cure most completely, involves the correction of bad habits and the substitution of healthy foods and methods for pernicious ones. Upon all sides we hear the questions, "How shall I eat, and what shall I eat?" In this land of abundance they are more important, than that universal one of "where shall I get bread?" The survival of the fittest now depends upon the proper selection of suitable nutrition from among the many varieties that almost intrude themselves upon our notice. In this country, more suffer from super-abundance, than from famine. It may truly be said that this is a poor man's paradise; for, here with moderate industry he can provide his family with the substantial needs of life, and here we see the result in the rising of the sons of toilers to our highest positions of power, wealth and success. Upon the other hand the extravagances and luxuries of the rich, most rapidly debase those who indulge in them. The infirmities that the parents hand down with their fortunes, do most hasten degeneration of the on-coming children. The natural laws of selection, are ever at work to level up the masses, rather than tear down the few, excepting those who are blinded by appetite and select to lay the axe of disease to their own bodies.

While you are laboring and fighting in the fields of life, remember that you are smoothing the way and erecting a series of landmarks as guides, that others may profit by your example.

To properly and creditably advance the standard both of your private lives and the profession of your choice, imposes upon you a duty which you may expect the discharge of, will require the encountering and overthrow of many obstacles. Not least among the labors will be the overcoming of the inertia of the fossilized minds, who like cold earthen clods will dispirit you more by their indifference than they will by active opposition. The future of the dental profession is already determined; from the one trunk has sprung two branches; in one, which probably will be the larger, the purely mechanical skill will be cultivated most assiduously. The other will be more select and honorable, and will require a very scientific understanding of the laws governing nutrition. To be practical it will exact the wisest of judgment concerning the selection, preparation and adaptation of the food best suited to the various conditions of the body.

Your acceptance of the degree just conferred, means more than the mere distinction and enjoyment of a position of trust due to tried and endorsed ability. It imposes the very highest and most sacred regard for your profession. You must devote unceasing love and labor to advancing and upholding its standard and rank. You must rise superior to all that is ignoble, or even countenances quackery. Life is inherited from parents, who pass the magic sceptre, that wields command over the limited amount of inanimate matter of which the body is formed. With this charmed talisman, is linked the collar of care, which grows heavier as the power of the wand weakens. See to it young men that all unnecessary weight and excresences are stripped from off the latter and that the former be unsullied blessings. Alas! too often more care is expended over the cultivation of perfection of breed in animals than in men! The virtues are a transmissible heredity, as well as the vices, and you will be blessed by the ability and sterling worth of your children in proportion as you have succeeded in the mastery and the self control for good against evil, for knowledge as opposed to ignorance. In these days of morbid investment in life insurance for income and pecuniary profit, why is so little attention given to the moral worth and training of those for whom the amassing of wealth, is the all engrossing care?

Every age and condition has its pleasures and its duties; as the former increase in depth the latter grow in height. The scales that weigh the enjoyments of life, are never borne down upon the side of pain that they do not in return rise up with the fulness of joy; counterpoise is ever the changing lot of the living; equipose the almost unalterable state of the dead. A chill precedes a fever and only death brings uniformity of temperature of body and likewise of the mind. For the first it may be found in the chill of the grave, for the latter it lies in the heat of remorse, or soars amid the bliss of Heaven.

We trust that you may deserve the greatest of joys both here and hereafter. To attain these the pathway may often lead through thickets of doubt beset by thorns that inflict pain. Fear not the present nor dwell too much even in thought upon it, but look forward with hope for the dawn of the coming day, which follows the thickest darkness of the night. The greater the trials in life the more profound the lesson and the more exalting will be the next upward step. The child attempting its infantile tasks at study, often with tears bedews the tender shoots of its tree of knowledge. A prominent and popular writer has called attention to the fact that the earth does not yield its richest fruits, until it has been torn up by the plow of the husbandman, and the furrows of the brows of students, that are worn by painful care and study, seem to be an essential preparation for the greatest and sweetest fruition of the mind. How do the pages of history verify this postulate, from blind Homer to homeless Payne! The most lovely verses have frequently been written amid the most intense suffering. Trials but strengthen the strong, and the mind, which has mastered in the severest struggle, is by this discipline prepared for even greater.

In the life that for eighteen centuries, has stood as a model for all men to imitate and follow, the agony of the garden of Gethsemane preceded that of Calvary— But what glory followed?

* " Still waits kind nature to impart
  Her choicest gifts to such as gain
An entrance to her loving heart,
  Through the sharp discipline of pain."

" Forever from the hand that takes
  One blessing from us others fall;
And, soon or late, our Father makes
  His perfect recompense to all!"

* Whittier's "Summer by Lake Side." "Evening."

COMBINATION OF GOLD AND AMALGAM.

BY I. S. FOGG, D.D.S.

Believing the method of combining gold with amalgam in large approximal cavities, (particularly in the molars and bicuspids), and in cavities embracing the approximal and masticating surfaces, to be the correct one, I was interested in the opinions of Drs. Register and Kingsley as I read them in the first number of the PRACTITIONER, and am reminded of an operation in my early experience the successful issue of which first led me to believe that good results might be obtained by such a combination.

Among my earliest efforts in gold filling were six approximal cavities in the superior incisiors, from and including the mesial surfaces of the laterals. My patient was a Miss of twelve or fourteen years with teeth of average structure for that age. In burnishing one of the fillings, I found it, to my disgust, sadly defective at the cervical margin and as time did not permit of refilling then, and no appointment could be made for some time, as a temporary expedient I removed enough of the gold at the imperfect point to form a cavity and filled with amalgam, intending upon the first opportunity to remove and entirely refill with gold. It was a year or more before such opportunity offered, and having been taught that gold and amalgam in contact, in the mouth would establish a perpetual galvanic battery I experienced some anxiety in the interval as to the inconvenience my patient might be suffering from this galvanic action. I was, therefore, quite agreeably surprised to find there had been no feeling of discomfort whatever. The tooth being in a good state of preservation, the gold portion of the filling being perfect, and the amalgam, though black, being entirely out of sight, and therefore unobjectionable, I deemed it unnecessary to disturb it at that time, but decided to keep it under surveillance as an experiment. Twenty years had elapsed when I last saw the patient, to find that this particular operation was still intact, and from the appearance of it, good for another twenty years, while all the others, I had meanwhile, at least once re-filled. Passing the question of the quality of the other fillings, excepting to say that at the time I made them, I thought them perfect, I believe that no fillings entirely of gold, however perfect, could have been made in those cavities at so early an age, that would have prevented a recurrence of decay at the cervical edges.

As before stated, it was my satisfaction with this particular operation which led me to experiment further in the practice of combining amalgam and gold with a view of testing the galvanic action theory, and for several years past I have used them as described by Drs. Register and Kingsley in new fillings, and I have also packed amalgam on gold in the filling of cavities caused by decay at the cervical edges, the gold filling being otherwise intact—believing it better practice than to remove as much as would be necessary in order to re-fill with gold. I have also, by making suitable retaining points on the anterior surfaces of amalgam fillings that had from long time become black and unsightly, built on or faced with gold, and have in like manner restored with gold a good portion of the lost buccal walls of the bicuspids depending altogether for anchorage on the amalgam fillings of the approximal surfaces. I have never known of any inconvenience from the use of amalgam with gold, excepting when I have used it in the manner alluded to by Dr. Register, viz: entirely covering the amalgam with gold. In a case of this kind where I removed about one-half of a very large amalgam filling, and covered the remaining portion entirely with gold, the disturbance, though not serious, and lasting but a few weeks, was such that I would avoid a repetition of the operation, believing that in certain conditions of the mouth such a combination might be attended with serious inconvenience.

Why this galvanic action should occur in the case just described, and not in those cases where both metals are exposed to the secretions of the mouth, or why gold and amalgam in combination will, when used as described by Drs. R. and K., preserve many teeth better than either gold or amalgam alone, it is not my purpose at this time to attempt to explain.

My object in this brief article is simply to add my testimony in support of the practice recommended by the gentlemen before alluded to.

The assertion made by the advocates of "gold only" that the cause of failure of gold to prevent decay is its imperfect insertion, goes for nothing in the light of every-day experience, and he who insists upon this, is either blind to the failures of the most eminent operators, or he must strike from the roll of competents many of those now in the front ranks of the profession.

An instance of the speedy failure of perfect gold operations which came under my notice a few days since, and which, in my opinion, might have been averted by the use of the combination of amalgam and gold, is so marked and lamentable that I cannot refrain from a notice of it here. The patient in the case, complained that "teeth filled but a little while ago were beginning to hurt." On examination I found from the distal surfaces of the superior canines to the anterior approximal surfaces of the second molars on both sides of the mouth, very large fillings, those in all of the bi-cuspids, being compounded and beautifully contoured by the aid of the Electric Mallet, the solidity, beauty and finish of which were calculated to excite enthusiastic admiration for the man possessing the skill to perform such operations, and yet, though scarce three years done, decay at the cervical margins of most of the fillings has progressed to the extent of admitting the blade of a good sized excavator. This work was done by a practitioner widely known as one of the most thorough and conscientious in the country. In my opinion the judicious use of amalgam with gold in this case would have averted for many years to come the necessity of refilling, besides saving many hours of labor and much expense.

TESTS FOR CREOSOTE AND TREATMENT OF EXPOSED PULPS.

BY H. C. LONGNECKER, D.D.S.

One of the objects of this paper is to enquire whether the wood-creosote offered for sale is pure or not. The relative commercial value of the articles sold as coal-tar-creosote and wood-creosote should be sufficient to dispose of the question as to their purity; however this may be, it can be laid down as a rule that the cheap variety is nothing more than a phenol or carbolic acid.

Wood-creosote is often adulterated with coal-tar-creosote or phenol.

To prove the identity of wood-creosote and its freedom from phenol, the following tests are laid down in various works as conclusive evidence of its purity. These tests have been fully tried with several samples of wood-creosote, and also with phenol, sold as commercial or coal-tar-creosote.

Test No. 1.—Equal volumes of anhydrous glycerine and wood-creosote make a turbid mixture, separating on standing:

Phenol dissolves—If three volumes of water be added the separation of the wood-creosote is immediate; phenol remains in permanent solution.

Test No. 2.—Solubility in benzine. Wood-creosote is entirely soluble. Phenol is insoluble.

Test No. 3.—One volume of wood-creosote added to two volumes of glycerine; the former is not dissolved, but separates on standing. Phenol dissolves.

Test No. 4.—Collodion or albumen with an equal bulk of wood-creosote makes a perfect mixture without coagulation. Phenol at once coagulates into a more or less firm mass or clot.

A number of other tests verified by Prof. P. W. Bedford are omitted, as those already given are thought to be sufficient for all practical purposes.

These tests were tried with four samples of wood-creosote purchased from different pharmicists, and all found to be pure.

Three samples of commercial creosote gave the negative tests, showing that they were phenol. The collodion test for small samples will be found very convenient, as well as reliable. While phenols are commonly sold for wood-creosote, it can be seen from the tests made that pure wood-creosote can be obtained without any more difficulty or care than is necessary to secure any other article that is subject to adulteration.

Wood-creosote is in abundant supply; is of unexceptional quality, and reasonable in price (though more expensive than coal-tar-creosote or phenol), so that there is no excuse for the substitution of inferior or adulterated articles. Creosote and carbolic acid are indispensable to the dentist in the treatment of exposed pulps, and as this is one of the uncertain operations we are called upon to perform, we should have the remedies used of unquestionable purity.

In the treatment of exposed pulps, the first step is to apply the rubber dam neatly, remove the soft portions of decay with excavators, apply to the exposed point or points a drop of carbolic acid,—as this acid has the power of coagulating the protoplasm of the ends of the fibres in the dentinal canaliculi, and if there be severe pain it will effectually relieve it. Now dry the cavity with bibulous paper, prepare a mixture of the oxide of zinc and creosote of a creamy consistency, and apply a small portion to the exposed point or points without producing the least pressure. Having completed this part of the operation without causing pain, the remaining portion of the cavity should be filled with the oxy-chloride of zinc and kept absolutely dry for at least thirty minutes.

If the teeth so treated give no trouble for twelve or eighteen months, the whole filling should be removed, having previously applied the rubber dam. If there be no exudation from the point of exposure, or if secondary dentine has been thrown out, the case is ready for the permanent capping. This should be done in the following manner: Remove the oxy-chloride of zinc filling with cavity burs operated by the dental engine. The capping of oxide of zinc and creosote in direct contact with the exposed pulp should be removed with delicate excavators; apply carbolic acid to the thin lamina of dentine next the pulp, and further protect it with a capping of oxy-chloride of zinc. The remaining portion of the cavity can be completed with any permanent filling that seems applicable to the case.

It is not prudent to fill permanently over exposed pulps; they should first be put on probation. The exception to this rule is where the operator, by his bungling manipulation, has exposed this delicate organ; to this may be added cases wherein the exposure is extremely slight and has given no pain. It has been said that a pulp that has been once congested will ultimately die. Whether this statement is correct or not we know that many pulps die quietly and neither the operator nor the patient is aware of it until incipient abscess ensues.

It is, therefore, safer and better to examine all doubtful cases a second time before inserting the permanent filling.

Should there be any exudation or any

evidence of an abnormal condition of the pulp, it should be treated precisely as in the first instance.

The oxy-chloride of zinc is preferred for the permanent capping, for the reason that it is a solid crystalized mass, and not only affords protection from thermal changes, but also shields the pulp effectually in the operation of condensing a gold filling.

It will be noticed that carbolic acid is preferred for direct application to the exposed pulp; this is for the reason that it forms a coagulated cushion which is a protection to the pulp in the subsequent treatment. Coal-tar-creosote has the power of coagulating albumen only to a limited extent. Pure wood-creosote, not at all.

RUBBER PLATES.

It is a common thing to see in dental journals condemnatory remarks on rubber plates—that it makes the gums sore and soft, that the mercury is absorbed by the gum, causing little ulcers on its surface—and that it ought never to be used in the mouth. Without a doubt, the above is true in a few isolated cases, but that it always causes such trouble, is saying too much.

In the course of twenty-five years, I have seen very few mouths of which the gums were made sore by the absorption of mercury from rubber plates, but in a larger number of cases, the gums have been softened, probably from the constant wearing of a rubber plate, yet the same condition of gum is often seen in mouths that never touched a piece of rubber. One of the worst cases of this kind I ever saw, was in the mouth of a patient that had always worn a gold plate.

The principal trouble appears to arise from its being a non-conductor—keeping the gum abnormaly heated, so unpleasant to some patients, as to cause them to remove the teeth frequently and bathe the mouth in cold water.

Admitting the above to be true, we cannot help seeing that at least two-thirds of those having rubber sets of teeth appear to use them with entire comfort. While so many patients prefer and *will* have them, its the duty of the dentist, as an honest man, to make them in the best possible way. A practitioner will loose reputation as a skilful dentist just as soon by inserting a poor rubber case as a gold one.

Improperly vulcanized rubber is the most disgusting thing to put in any one's mouth. The gases oozing from it constantly will cause the strongest stomach to sicken. The dentist who insults his patient by putting in such a piece of work ought to die a neglected *genius!*

To properly vulcanize rubber the time should be divided into two portions or heats; the first portion at a lower heat than the last, *to cure it*, or in other words to give time for the gases to escape and be absorbed into the plaster. The second heat at a higher temperature to harden the rubber.

When rubber first began to be used for plates, we were instructed to continue the heat for five hours. That was the time when large double heaters were used. Then the rubber plates, when polished, were a beautiful rosy red, very different from the brown color of the vulcanized rubber of to-day. Then came an era of improvement? The heaters were reduced in size and the time shortened, so that now the manufacturer seems to think the principal recommendation for their rubbers, is the short time it takes to harden them; the latest is *the fifteen minute*—make you a set while you wait—price, $3.

The method which produces the best results with me, is as follows: In a two flask Whitney vulcanizer I place my flask, turn on the flame, allowing from twenty minutes to a half hour for the mercury to reach 280°; if the plate is thin, say about an eighth of an inch or a trifle over, I let it remain at that point thirty minutes, to allow time for the gases to be driven off, then turn the flame a little higher; when the mercury reaches 340° hold it there for another thirty minutes then cool off in water. In pieces of irregular thickness or where it may be a quarter of an inch in some places the first heat should be prolonged to forty-five minutes or even one hour in some cases. The last heat should never be longer than a half-hour. If the temperature is allowed to be too high or too low five or six times during the process, a poor plate is the result.

I prefer the light red rubbers for general use, having less caoutchouc to the pound than others; they allow the gases to pass out freely during the process of vulcanizing, which if properly done, makes an odorless plate; if the plate emits an odor of sulphurous gas, when the file passes over it, it had better be enclosed in fresh plaster and give it twenty minutes more heat at 340°. Another good rule is to let the plaster have at least twelve hours to set hard and firm. The process I have adopted, when time permits, is, after the teeth are waxed and fastened to the cast, place it in water to soak; after mixing sufficient plaster, take some on a camel's hair pencil and fill in all of the joints and between the teeth inside and out, then enclose in flask in the usual way; after the plaster has become hard enough, plunge in hot water to soften the wax, seperate and wash out the wax with boiling water; after a few minutes mix a little plaster on the palm of the hand, and with a narrow piece of brass, flatened very thin at the end, put a small portion in the joints, inside, to keep out the rubber; set the flasks aside for twelve hours to harden, before packing.

Covering the cast with tin-foil, is an excellent plan; it leaves a better surface on the rubber than any other covering I have tried, the tin can be removed with a mixture of nitric and muriatic acids—equal parts—too much nitric dissolves the rubber.

I long ago abandoned steel burrs and the worse than useless sand-paper for finishing plates, and now use a coarse file on the outside and edges, with coarse corundum wheel for the lingual surface; a skilful use of the wheel is more effectual than any amount of work with the clumsy contrivances called scrapers for sale at the depots. With a wheel an inch in diameter, a quarter inch thick, any desirable shape can be given to the lingual surface; curves can be formed around the ends—depressions, to make more room for the tongue, and undulations in the surface, not only useful but artistic.

The marks of the wheel can be removed with powdered pumice, water and a pine stick; the piece of pine half-inch wide and quarter inch thick, long enough to form a handle. Every mark and scratch should be entirely removed before the polishing commences. Never use oil, emery or rotten-stone on any plate, either rubber or metal, as it is almost impossible to remove it from the joints of the teeth. The felt wheel is next in order—with pumice and water—and produces a beautiful surface. The felt wheel has the bad quality of loosing its shape and mashing down. This can be corrected by giving it a coat of shellac on each side, done by dropping some melted shellac on the felt, then passing a hot knife blade over it, the heat causing the felt to absorb the gum—the wheel will now wear down to the hub, without getting thicker. The polishing is done with a brush-wheel, prepared chalk and water, and will only take a few minutes; towards the last the brush should be nearly or quite dry—run with considerable speed and lightly touched, this leaves a polish excelling any other method I have ever used; the piece should be washed with soap and clean water, rinsed and wiped with a clean towel, and lastly rubbed with dry cloth. W. R. Hall.

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THE New York State Dental Society meets at Albany, May 12th.

Those desiring the diploma of this society, and the degree of M. D. S., should communicate with Dr. Frank French, Secretary of the Board of Censors, at Rochester, and report to him at the Delevan House, Albany, on the morning of May 8th, 1883.

THE Northern Ohio Dental Association will hold its twenty-fourth annual meeting at Sandusky, May 8th and 9th, 1883.

THE Illinois State Dental Society holds its next meeting at Decatur on the second Tuesday in May.

The State Board of Dental Examiners meets at the same place on Monday the 7th of May.

THE next annual meeting of the Texas Dental Association will be held in Dallas, commencing the first Tuesday in May, 1883, and continuing for three days. All dentists in good standing are cordially invited.

UNIVERSITY OF PENNSYLVANIA, DEPARTMENT OF DENTISTRY.—At a public commencement held Friday, April 13, 1883, at the American Academy of Music, Philadelphia, the degree of Doctor of Dental Surgery was conferred by William Pepper, M.D., Provost, upon thirty-four graduates.

WE have received a lengthy and interesting account of the commencement exercises held in connection with the various departments of the State University of Iowa. The dental department was established in 1882, and at its first commencement, March 7th, 1883, the diploma of the institution was awarded to eight graduates.

The Iowa State Dental Society holds its next meeting at Iowa City on the first Tuesday in May.

The first regular meeting of the Iowa State Board of Dental Examiners will be held at the same place on Monday, April 30th, 1883.

DR. THOMAS FILLEBROWN, of Portland, Me., has been appointed Professor of Operative Dentistry, in the Harvard Dental College. We congratulate our old-time friend upon his preferment, and the institution with which he is connected, upon its good fortune in securing such an able, progressive, and energetic member of the profession to occupy the chair made vacant by the resignation of Dr. Shepard. Through his active work in the societies, and his writings, Prof. Fillebrown has become well known to the dental profession, in which he has hosts of friends who heartily wish him success in his new field of labor.

A PLEA FOR THE CHILDREN.—It has frequently been our experience in the treatment of children's teeth, that more harm than good has been accomplished by the attempted thoroughness of the operations performed upon them; especially has this been the case with those timid and nervous little patients who, unfortunately, are the ones most frequently requiring the services of a dentist.

While permanency should be the first consideration in the treatment of adult teeth, particularly where the individual is ordinarily strong and healthy, immediate *relief* and present *comfort* are of primary importance in the case of such children as we are considering.

We have no doubt that many permanent teeth have been lost through a fear of the dentist, which has been inspired by a too vigorous handling of the deciduous teeth, giving the child such a dread of dental operations that it has been difficult, if not impossible, to have the teeth inspected as often as they should be, thus allowing some of them to decay to such an extent that filling would be useless.

Quite likely the child has heard some older person give such a graphic description of the tortures he has been subjected to in the dental chair (and as a general thing, such pictures are fully as vivid as the facts will warrant) that he looks upon the dentist as little less than a fiend incarnate.

Parents perceiving this feeling of dread and listening to the pleadings of their children, neglect to have their teeth attended to until they are forced to do so to gain them relief from suffering; and then they are dragged along with their little minds filled with forebodings that can be better imagined than described.

We all know how tenaciously impressions formed in childhood remain fixed in the mind, and an experience in the dental chair is no exception.

It behooves us, therefore, to remove so far as possible, the disagreeable features from our operations, and send our little patients away feeling, to say the least, we are not the *worst* people in the world. How fortunate, when they come to us "with fear and trembling" and full of apprehension, if we can happily disappoint them, relieve their pain, and make them comfortable and happy.

The plan we pursue in these cases is somewhat as follows: Apply the rubber dam if possible before attempting to excavate—absolute dryness is of quite as much importance as thorough preparation, and also enables us to make any applications that may be necessary with more accuracy and satisfaction. Lift out carefully any debris or disintegrated tooth structure that can be removed without pain. If any semi-decomposed dentine remain, the removal of which is painful, saturate with carbolic acid, and after carefully drying out the cavity, fill with oxyphosphate or such other plastic material as seems best adapted to the case in hand.

We have derived more satisfaction from the use of oxyphospate of zinc *where we have been unable to make a thorough excavation*, than from either amalgam or gutta-percha, especially where the tooth has been kept dry from the commencement of the operation until a few moments after its completion. Even if the tooth requires refilling occasionally, there is much greater likelihood of keeping it until nature removes it to make room for a succeeding tooth by coaxing it along in this manner without pain or serious annoyance to the child, than if we were to thoroughly excavate, no matter how great the pain, and fill with tin foil, as some recommend.

And also with the permanent teeth we think it is the exception where gold fillings have been inserted before the twelfth year, that they are perfectly satisfactory; and experience has taught us that it is far better in the majority of cases, to fill these teeth with some plastic material until they have acquired sufficient density, and the patient sufficient endurance to warrant the employment of gold.

Dr. Prime says that dyspepsia is a great foe to grace. It darkens the sky and breaks the hopes of many Christians. They think the trouble is in their hearts when it is in their stomachs.

There is no better use to make of fine-cut tobacco, than to bind it upon a fresh wound, and nothing will stop the flow of blood quicker.

SOME FACTS FOR THE DENTAL OPERATOR.*

BY L. G. NOEL, M.D., D.D.S., NASHVILLE.

An intelligent body, like that I have the honor to address, will thank me to leave off the usual preliminary remarks, and plunge at once into my subject.

"*More operations fail from want of judgment on the part of the operator, than from lack of skill.*" We quote our own language.

How often has the truth of this been forcibly presented to us when examining the teeth of patients who have "always been to the best dentists," and we find a mouthful of gleaming cohesive fillings nearly every one of which has to be done over on account of recurrence of decay.

Perhaps the mortification is rendered doubly acute because the patient has always been our own, and we have to shoulder all the blame ourselves.

Oh! How small we feel when the patient says, "Dr., I think I'd better have an artificial set." No matter whose patient it has been, it is not an enthusiastic undertaking to set about refilling those teeth after a reluctant assent has been yielded to your advice to "try it again." In such cases we generally find the grinding surface fillings have done pretty well, and that the proximate fillings are doing so well at the grinding surface, as to nearly deceive the operator with their specious brightness, but a close examination about the gums with a small excavator, tells the melancholy story of recurring decay. In the last number of the *Dental Cosmos* we read a paper from the pen of Prof. D. D. Smith, in which he brought these facts before the Massachusetts Dental Society, and suggested some methods we shall quote, as we shall have to dissent somewhat from our beloved teacher's views. (We enjoyed the privilege of being under Dr. Smith's faithful tutelage while at the Philadelphia Dental College.)

"After the eruption of the twelfth year molars, we look for decay upon the proximal faces of the teeth, more or less prompt in action, in proportion to the character of the tooth material and the process of nutritient consolidation then taking place. From the great number of mouths I see with the bicuspids (superior especially) missing, I judge that the experience of others accord with my own that these teeth when developed of soft or medium grades of tooth-structure, are exceedingly unsatisfactory, and their preservation uncertain by the old and established methods of filling. Gold, of whatever kind or by whomsoever introduced, will fail in them sooner or later. Unless used by thoroughly competent and experienced hands, its duration of usefulness will scarcely average more than eighteen months, and by the time such bicuspids have been filled mesially and distally twice, the crowns are generally so weakened as to be of little further real service. These soft teeth are commonly markedly constricted at the cervical portion, inviting decay and re-decay by their shape as well as by their faulty structure. Amalgam I have found quite as uncertain and even more unsatisfactory than gold for them; uncertain, in that decay is quite as frequently re-established around the filling, and unsatisfactory, in that amalgam imparts to this class of soft teeth a dark blue color, which is unsightly in the mouth. Tin is objectionable for the same reason. Oxychlorides disintegrate and wash out at the cervical portion, leaving the cavity unprotected at the most critical point. Oxyphosphates promise better than the oxychlorides, but their value is not established.* *Guttapercha is the best*

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* Read before the Tennessee Dental Association.

* (By no means; and they have, in the hands of the writer, proved most inimical to the life of the pulp.)

preserver of such cavities at the cervical margin that we know, but it will scarcely endure the wear of mastication for weeks.''

We italicise here, because we shall again refer to this strong admission to establish the superiority of a practice we have tried, and think better than that Dr. Smith is about to suggest.

''What then shall we do to preserve these teeth when thus decayed? In July, 1878, it was my privilege to read an article before the Pennsylvania State Society on ''Gold and Tin in Conjunction as a Filling Material,'' in which I advocated the use of tin foil along the cervical wall and at the cervico-palatal and cervico-buccal angles of the cavity, packing it to about the thickness of No. 24 plate, and then completing the filling with gold. This was after the promulgation by Dr. Palmer of the theory of galvanic action between fillings and tooth-structure, and after repeated trials in the mouth had shown me its value over gold alone. Some of the most successful of all my efforts to combine filling materials, or in the use of any materials for the preservation of soft teeth, have been in the use of tin and gold in this manner. To its use in this way, there are two serious objections: First, it imparts to the cervical portion of the tooth the color and appearance of decay, so much so, that in two or three instances I have been seduced into the removal of the fillings without, however, finding any necessity for it. The second, and perhaps more important objection is, that its use requires the same conditions of dryness, shape of cavity, and delicate manipulation, the same pain and inconvenience to the patient, and the same mental and physical strain upon the operator, as does the introduction of gold alone.''

The doctor next passes on to describe a combination of gold and amalgam (we regret we cannot quote him literally, but trust all present have read his article), the latter material being used in this class of cavities just as the tin was employed at the cervical margin, and claims for it, superiority over the former method. ''First, it has shown itself the equal of gold and tin as a preserver.'' How does that statement chime with his statement quoted above(?)—That he had ''found amalgam'' quite as uncertain, and even more unsatisfactory than gold for them; ''uncertain, in that decay is quite as frequently re-established around the filling, and unsatisfactory, in that the amalgam imparts to this class of teeth a dark blue color, unsightly in the mouth.'' Does its combination with gold render it more preservative of dentine and less liable to oxidation? ''Second, he says it is much easier of adaptation.'' ''Third, it can be used with little or no pain to the patient.'' ''Fourth, the filling is much more readily introduced and finished.'' ''Fifth, it does not give the discoloration *of decay* at the cervical portion.'' One unacquainted with Prof. Smith and his methods of work, would think him a slovenly and indolent operator, after reading of this amalgam and gold combination, especially from the stress he lays upon its labor-saving advantages.

But the writer knows too well his tireless diligence, his uncompromising thoroughness, to fall into such a mistake. He believes Dr. Smith to be entirely honest in his advocacy of this method. We think we can propose a better method for this class of cavities mentioned in Prof. Smith's paper. A method we think best for all deep approximate decays so nearly exposing the pulp, as to render it unsafe to fill the entire cavity with metal, on account of its conductivity of heat. A method peculiarly adapted to those cavities extending beneath the gums on the neck of the teeth. In the November number of the *Ohio State Journal*, 1882, we called attention to our practice of filling the cervical portion of these cavities with guttapercha, just as Dr. Smith describes the use of tin and amalgam, filling with gold or amalgam, according to the strength of the tooth. We now wish to refer again to Prof. Smith's admission of the superiority of guttapercha over the substances he employs. He says, "it is the best preserver of such cavities at the cervical margin, that we know, but it will scarcely endure the wear of mastication for weeks." Why not then employ it instead of tin and amalgam, and protect it from the wear of mastication, by making the grinding surface portion of gold where the strength of the tooth will admit, or of amalgam where, from the frailty of the walls of the cavity, it is deemed imprudent to attempt gold. We have in our own mouth teeth so filled that are giving the greatest satisfaction, bicuspids that are carrying their fourth fillings, in cavities that have gone, by recurring decay, dangerously near to the pulp, and far down on the neck of the teeth below the gums.

That a good preparation of guttapercha is better than gold for all deep and sensitive cavities on the buccal and lingual sides of the teeth, or in any situation, the location of which is calculated to protect it from the friction of mastication, no one who has had experience in its use will deny. Its great superiority is in its non-conducting quality, but its ability to resist the action of chemical agents also places it at the head of the entire list of substances employed for plastic fillings. That it will not endure many weeks in cavities with grinding surface exposures, *unless protected at such exposures*, is equally true, but that we have the means at hand, in gold and amalgam, of providing such protection, and that without calling forth more skill than the average operator ought to furnish, is true. It is a much easier matter to finish these guttapercha fillings with gold than would, before trying, be supposed. Let us imagine two cavities between the bicuspids or molars, adjacent cavities, excavated ready to be filled. Our rubber dam has been adjusted, and we have wiped out with creosote and found the pulp not *quite* but *almost* exposed. We have stood over such a case, hesitating what material to use. We don't hesitate now, but have our Hill's stopping, Caulk's diamond points, or some other good preparation of guttapercha, already warm and softened by steam-heat, on a porcelain slab. Clipping off a little square of steel from the handle of a broken separating file, we place it between the teeth, thus extemporising a matrix to prevent the adhesion and coalition of the two fillings.

We now proceed to pack the guttapercha, forcing it well into the retaining grooves, until we have passed the pulp line in both teeth. Now, if there are frail edges to the remaining portions of these cavities, we would protect them by placing against them little cylinders of Abbey's non-cohesive gold, allowing the ends of the cylinders to stand well out against our matrix, so as to admit of burnishing down on the edge in finishing. It is easy to start the cohesive gold by simply pricking it into the guttapercha with a hand plugger. Forcing it well against the walls of the tooth soon gives a nice foundation upon which to weld the gold protection plug.

We have come to like the hand pressure plugger so well for distal cavities, especially in lower teeth, that we care very little for the aid of the mallet in such cases, but the secret of making dense fillings is in the use of *small* points. Let us relate a case. On Saturday last, a Philadelphia drummer came to us with toothache in the two upper superior right bicuspids, said, "he supposed he'd better have them out." Examination showed extensive decay upon their approximate surfaces, communicating with cavities upon the buccal surface, round the necks of the teeth, from which the gums had greatly receded.

There being very little pain upon tapping, we unhesitatingly pronounced the teeth amenable to treatment, and after excavating found slight exposure of the pulp of the first bicuspid. This had evidently been the aching tooth. Applying creosote to both teeth, we permitted it to remain whilst we made ready our filling materials. The rubber-dam adjusted, we proceeded to cover the exposed pulp with a little paste of creosote and oxide of zinc, then we filled the cavities with Hill's stopping, beginning with the buccal portions until well past the pulp line, finishing at the grinding surface with amalgam. One of the members of this society chanced to be in my office this afternoon, when the patient called to have the fillings polished, and we had the gratification to learn from him, whilst exhibiting the case to our dental friend, that the teeth had only ached a little immediately aftcr the insertion of the fillings—had been perfectly comfortable ever since. The point that gives me most confidence in the ultimate success of this case, is that simple paste of creosote and oxide of zinc over the pulp, not being followed by the oxychloride or the oxyphosphate, which have proven in the writer's hands alike inimical to the health and life of pulp-tissue.—*Dental Headlight.*

To Repair Slipping Disks.—Users of the sand-paper or other disks, mounted on the ordinary screw mandrel, are doubtless troubled at times to prevent their slipping. The slipping is a result either of the wear or careless make of the mandrel, the center of the screw head coming to a bearing first instead of the periphery. To remedy, take a sharp chisel and, while the mandrel is revolving—without the screw head—pare down the center so that the end will be somewhat dishing. See that the screw will turn *quite in* and freely, without the disk, and there will be no further trouble, at least, till the operation needs repeating.

PREMATURE DENTITION.

D. A. Hengst, M. D., of Pittsburg, Pa., writes to the *Medical and Surgical Reporter*, as follows:

A few days since, while making a friendly visit to a patient I attended in confinement five weeks ago, I asked her how her baby was doing. She remarked, "Very well, indeed; it has two teeth."

Upon examination of the mouth I found the two lower central incisors perfect and well formed. The mother stated that she first noticed the teeth on the ninth day after her confinement. As she did not have occasion to examine the child's mouth before that time, it may have been born with the teeth; at any rate, the teeth were there when it was nine days old.

The child is a female, well developed, of medium size, and apparently in good health. * * * * * *

I have frequently observed the size of the fontanelles in these cases of abnormal dentition. In this instance, both fontanelles were well closed.

In a case of retarded dentition seen by me some time ago, (the patient, a boy, twenty-six months of age), the two upper and two lower central incisors only had appeared, and both fontanelles were as large as they usually are at birth.

The boy was of a nervous temperament, ordinary size, and not of scrofulous disposition. I attended this boy during several attacks of sympathetic convulsions, which attacks, the mother informed me, he has had three or four times during the past six months. The gums were in a normal condition, and the convulsions did not seem to be caused by the delayed dentition.

What relationship there can be between dentition and the state of the fontanelles, I cannot see, unless by some means or other it be a too rapid or too slow formation of phosphatic matter in the system.

A HINT TO GRUMBLERS.—"What a noisy world this is?" croaked an old frog, as he squatted on the margin of the pool. "Do you hear those geese, how they scream and hiss? What do they do that for?"

"Oh, just to amuse themselves," answered a little field mouse.

"Presently we shall have the owls hooting; what is that for?"

"It's the music they like best," said the mouse.

"And those grasshoppers, they can't go home without grinding and chirping. Why do they do that?"

"Oh, they are so happy, they can't help it," said the mouse.

"You find excuses for all; I believe you don't understand music, so you like hideous noises."

"Well, friend, to be honest with you," said the mouse, "I don't greatly admire any of them; but they are all sweet in my ears compared with the constant croaking of a frog."

COLD WATER FOR THE SICK.—An M. D. of authority says: "It is very doubtful if there is a single possible disease in which the patient should not have cold water *ad libitum*. Oh, how babes have suffered for want of cold water! A nursing babe is given, no matter how thirsty, nothing but milk. The little lips are dry and cracked, and the little tongue so parched it can scarcely nurse, and yet it has nothing but milk to assuage its craving thirst. Try it yourself, mother, when you have a fever, and we are sure that ever after, when your darling is dying with thirst, the teaspoon and tumbler of cold water will be in constant use."

CLEANING POLISHED BRASS.—Get some tripoli, such as comes in lumps; powder it up fine, and use with oil and a cloth or chamois skin, and then use some more of the powder dry, with another piece of chamois skin. If the brass be very badly tarnished, it is better to use a solution of oxalic acid first, and immediately wash clean with water; then use the tripoli, with water or oil, whichever is most convenient. The oxalic acid will immediately remove all stain and discoloration, and the tripoli will give a fine polish.

DR. L. D. CARPENTER, Corresponding Secretary of the State Dental Society of Georgia, informs us that, by order of the President and the approval of the Executive Committee, the time for holding the next annual meeting of this society has been changed from the second Tuesday in May to the second Monday in August. The object being to join with the Southern Dental Association which meets on that date at Atlanta, Ga.

ON DISTURBANCES OF VISION CONSECUTIVE TO MORBID CHANGES IN THE TEETH.—Morbid changes of the teeth, or operations practiced on these organs, may determine visual disturbances.

These disturbances generally consist in a diminution of the visual power, which may extend even to complete abolition. This is generally accompanied by dilation of the pupil without apparent organic changes.

In other cases, however, the change of vision takes place from disturbances of the nutrition of the eye, caused by paralysis or reflex contraction of the vaso-motor nerves.

Young subjects are principally affected.

The teeth of the upper jaw, and among these the molar teeth, seem to be almost exclusively the cause of these disturbances. The affections disappear with remarkable rapidity after extraction of the teeth, without it being necessary to resort to any other treatment.—*Half-Yearly Abstract.*

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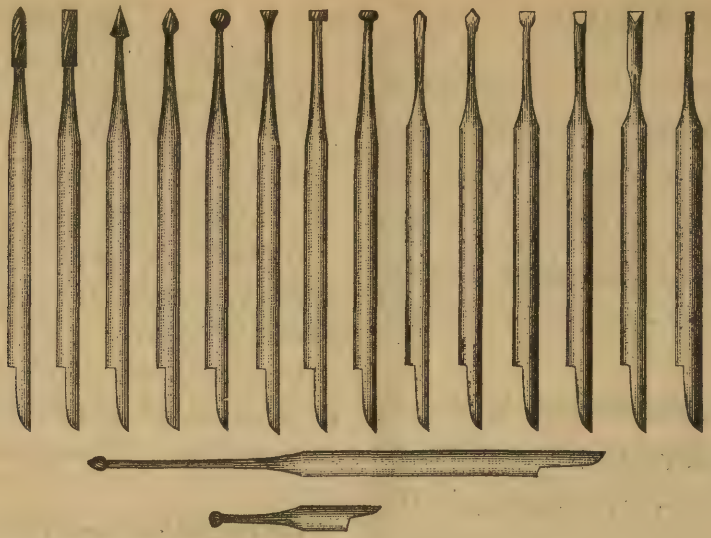

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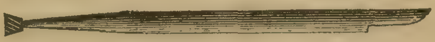

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When sent by freight, porterage extra.

In ordering, state whether you wish *Impression* or *Slow Setting*. The slow setting is preferable for models and flasking.

We always send *Impression Plaster* unless the other kind is ordered.

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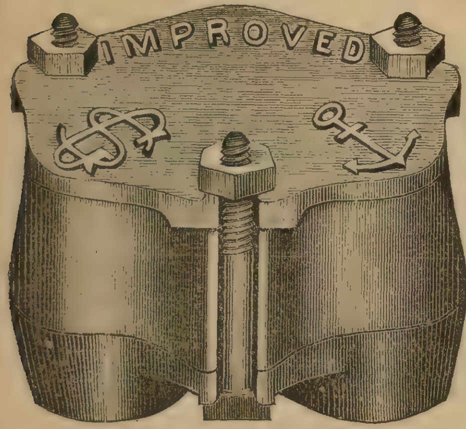

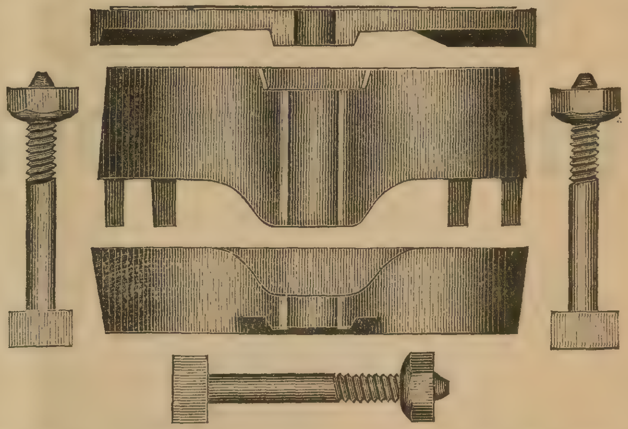

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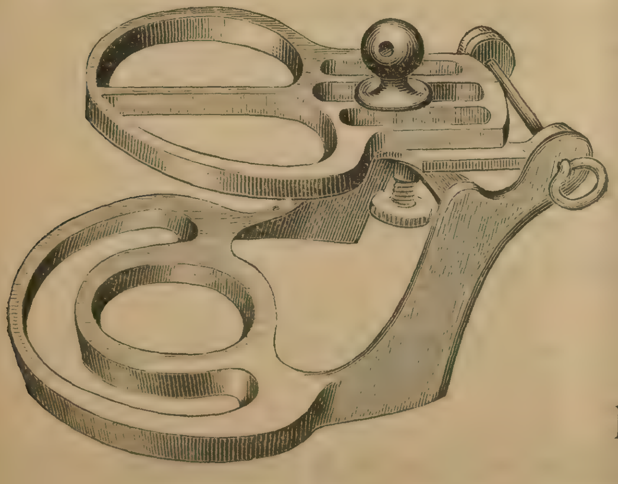

Our No. 1 Articulator, which is here represented, is made of Brass, cast in dry sand moulds, carefully fitted in all its parts, and dipped, giving it a bright finish, making a very handsome and useful tool for the Laboratory.

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MODELING COMPOUND,
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Purchase only of reliable dealers, their agents, or of the inventor and ONLY manufacturer,

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We sell ten times as many Flattened Cylinders as we do of all the rest.

STYLE A,

Flattened.

Nos. ½ 1 1½ 2

STYLE A,

Loose, and can be used as Pellets.

Nos. ½ 1 1½ 2 3

STYLE B,

Loose, but more compact than Style A.

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Compact, but not hard; used as Cylinders only.

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These numbers are to denote that No. ½ is a half sheet of No. 4 Gold Foil, cut into strips and rolled into cylinders; No. 1, one sheet; No. 1½, one sheet and a half; No. 2, two sheets, etc.

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In making these cylinders, our best 1000 Gold Foil is used.

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CYLINDERS AND FOIL.

Per ⅛ ounce	$ 4.00
" ½ "	15.00
" 1 "	30.00
In 2 ounce lots, per oz.,	29.00

For Sale by GIDEON SIBLEY.

1 oz. Troy, $3.00.

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GOLD AND PLATINUM ALLOY.

This Alloy is prepared under the supervision of an eminent analytical chemist, which enables us to guarantee the chemical purity of the metals used.

Having been subjected to the severest tests before offering it to the Dental Profession, it has been demonstrated that it will not shrink or expand, nor discolor in the mouth, and can be used in the Front Teeth with better results than any other Filling except Gold.

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Manufactured by

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CARD.

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TRY **Sibley's Alloy,** *which will not.*

IF the alloy you use shrinks, thus allowing the fluids to enter the cavity, and the decay to go on as freely as before filling,

TRY **Sibley's Alloy,** *which will not.*

IF, in using other alloys, you find that they discolor in the mouth,

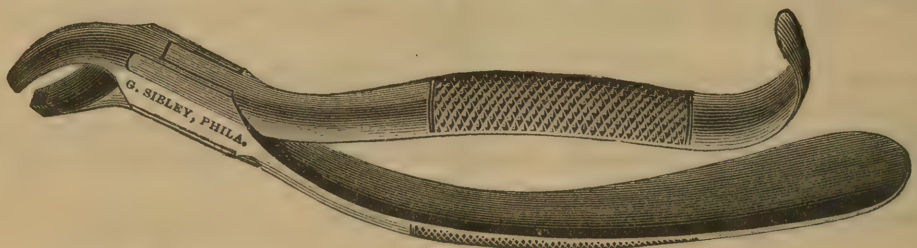
TRY **Sibley's Alloy,** *which will not.*

If you want a Reliable Article, try SIBLEY'S GOLD & PLATINUM ALLOY.

We Guarantee Satisfaction.

Put up in 1-oz., 2-3 oz. and 1-3 oz. Packages. **PRICE, $3.00 PER OUNCE.**

SIBLEY'S DENTAL FORCEPS.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These FORCEPS are of excellent finish—NICKEL PLATED. Their adaptation to both tooth and hand is unsurpassed. The best quality of steel is used in their manufacture, and the greatest care exercised in tempering them. Any Forceps broken, with proper use, within one year from the date of purchase, will be exchanged.

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CEMENT.

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$1.00

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THIS COMPOUND NOW STANDS WITHOUT A RIVAL.

From Two to Four Years' Test by Leading Dentists Throughout the World, has Proved it to be all that has been claimed for it.

Fillings that have been Standing in the mouth OVER three years, in comparison with other plastic material in the market, show not only its SUPERIORITY, but it has proved to be *more insoluble* than many of the so-called insoluble cements. We have increased the quantity fully one-third, and all bottles are lettered with **"Caulk's Diamond Cement."**

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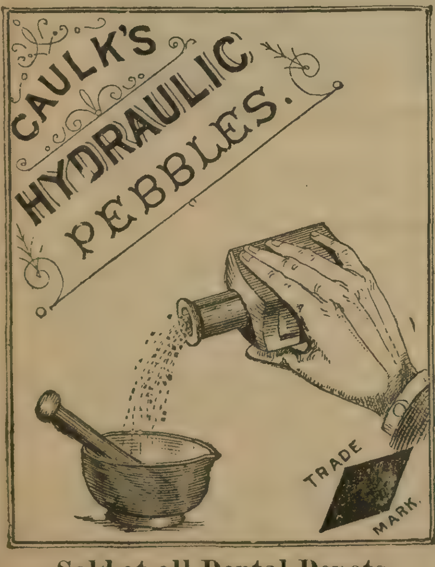
This Alloy is made expressly for front teeth, is of a peculiar grayish-white color, which will retain its brightness under all circumstances. Price same as Par-Excellence Alloy. Two ounces, one of each, for $5.00.



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This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such materials. It is harder, tougher, and stronger; resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

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SUPERIOR ARTIFICIAL TEETH.

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PERFECT IN SHADE, AND LIFE-LIKE IN APPEARANCE.

UNEQUALED IN QUALITY AND PRICE.

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May 15th, 1883. Vol. 1.—No. 5.

THE
Dental Practitioner.
A MONTHLY JOURNAL.

Published by GIDEON SIBLEY. PHILADELPHIA. Edited by CHAS. E. PIKE, D.D.S.

Office of Publication, 13th and Filbert Streets, Philadelphia, Pa.

THE COLLEGE EXPERIENCE OF SILAS DEAN.

My father is a country grocer, who manages, by strict economy, to support a large family, of which I am the eldest.

Up to the age of seventeen I attended the village school, when my father, thinking I had acquired sufficient education, entered me as a student in the office of Dr. Gore, the celebrated dentist of our town, During my first year with Dr. Gore, my principal professional duties were to sweep and dust the office, clean the spittoons, wait upon the door and to watch the vulcanizer. This last, I had been told, was an essential part of a dentist's education. I was not allowed to take impressions, for fear that I might choke the patient, or to run them out, lest they should be spoiled. The idea of my operating was not to be entertained. He would not let me grind teeth, as I should be sure to ruin them, and I did not feel encouraged to attempt extraction by the ill success of my preceptor in that direction.

My first year having expired, I was promoted to the position of waxer of teeth and packer of flasks.

So much for my practical knowledge. My theoretical instruction was to be acquired at a dental college, for which I was now considered perfectly prepared. I had been very much attracted by the announcement of the Wetumpa Dental College, which informed me that the institution was now ready to receive students, and offered them extraordinary advantages for acquiring a thorough dental education. Plenty of operating chairs, crowds of patients, the most expensive and best materials, a large and thoroughly equiped laboratory. These were all at my disposal. The student need only furnish his own tools and instruments.

I decided to go. The good-byes were said, and I started for Wetumpa. Upon arriving at the college, the first fact which forced itself upon me was that the building was not so roomy as the announcement had led me to suppose. After climbing a pair of stairs, which looked as though they needed a good scrubbing, I reached the laboratory, walked in and wandered around, soon making the acquaintance of a young man named Brown, who, though like myself, a first-course student, was better prepared in practical work. He was hunting for a chum, and as we were congenial, we decided to room together. He was a very good fellow, and we soon became much attached to each other. We worked at the same operating chair, and our laboratory benches were adjoining.

Brown advised me to do very little operating at the start, as he thought it better for me to begin by getting well grounded in the working of vulcanite. This I considered sensible advice.

Never shall I forget my first case. It was that of an old woman, with a mouth as flat as a shovel. She wanted a full upper set of teeth. Wishing to take the impression, I sought assistance. Both demonstrators were busy attending to the urgent demands of many clamorous students, and paid no attention to my requests. "Well," thought I, "the prospectus announced that there were numerous competent demonstrators, always on hand to give to each student individual attention when required. It does not seem to me that two demonstrators of operative dentistry—one of them a second-course student—are sufficient to supply the wants of this college. There ought to be five or six at the very least, and where are the demonstrators of mechanical dentistry? As yet I have noticed none."

Just as these by no means pleasant convictions had forced themselves upon my mind, I heard the well-known voice of Brown, calling for gold. Looking up, I saw him among a throng of students who were besieging the unfortunate assistant demonstrator.

Brown, finding that he could get no gold for at least ten minutes, sauntered over to me, and, after examining the mouth of my patient, inquired sympathetically, "Well, old man, what's the matter?" "Nothing," replied I, "only there is nobody to show me how to take this impression." "Oh, I can fix that in a very short time. Run down to my laboratory drawer and get my No. 2 impression cup; bring a bowl, a knife and some plaster, we will take it together." First I took one, then he took one, and so on. To avoid injustice, we agreed that the one who last used the bowl and cup should clean them for his successor. At last, after taking fourteen impressions, we got one which we considered perfect. Brown showed it to a gentleman who was strolling around the operating room, and returned, his face illuminated with joy. "Dr. Storley says that it is a good one." "Thank the Lord!" murmured our patient, in a stifled tone.

I paid no attention to this remark, but in as dignified a manner as possible, sent her away, telling her to return on the following day for the bite.

When she had gone, I turned to Brown, who was gazing after her with a grim smile, and inquired, "Who is Dr. Storley? Is he connected with the college?" "Why, he is the clinical professor; its strange you do not know him! But it is no wonder after all; he is so occupied with his outside duties, that he only gets here two or three times a week."

"Well," thought I, "no clinical professor to help us, and the demonstrators too busy to give instruction! A fine opportunity we have for learning dentistry. Still there is one comfort; if we are allowed to make all possible failures, we shall learn by experience what to avoid."

And, thus cogitating, I went to the laboratory to run out my model, leaving poor Brown still waiting for his gold. Going to the plaster box, I ran my mould with great care. Having waited fully an hour for it to set, I took off the impression. The chalk-like appearance and extreme softness of the plaster surprised me very much. I had not then learned that college plaster is notorious for its poor quality. Later, however, this fact became painfully apparent to me, while running down a celluloid case.

The old woman returned on the following day, and, after two hours' waiting, I was fortunate enough to persuade one of the demonstrators to assist me in taking the bite.

The patient departed, cheered by the prospect of having to come but once more to the college. The bite being run and placed upon the articulator, I went to pick out the teeth at the dental depot. A drawer full of the desired articles was set before me, and left for me to make my selection.

There I sat for two mortal hours in perfect ignorance what to choose. At last one of the salesmen took pity on me and coming up, said, "Shan't I help you, Doctor?'' He picked out a set, which I thankfully received and carried to the college. Watching my opportunity, I showed them to the demonstrator, who promptly declared that they would not do—being too long and not dark enough. Back I went to the depot, somewhat to the disgust of my friendly adviser, who, nevertheless, assisted me in choosing a second set. This occurred five times before I succeeded in satisfying the demonstrator, who, I must do him the justice to say, was only doing his duty in teaching me to be so critical. Finally I received a hesitating permission to grind the teeth and prepare them for flasking. As I had already considerable experience in packing flasks, it was an easy matter for me to have my case in proper condition for vulcanizing early next morning. At the very first opportunity I captured the vulcanizer from under the very noses of ten other students, who had their cases ready, and put it on the fire. The vulcanizing finished, I completed the work on the plate. The old woman, on receiving it, went away satisfied and happy, but not more so than I.

Let it not be supposed that I was always so successful with my plates. Frequently I had to make them over three or four times. When I began to operate, my first gold filling promptly fell out, as I had no one to show me how to prepare the cavity. The patient left, never to return.

When Brown heard of this mishap, he gave me some excellent hints, but I was so discouraged that I concluded to watch the operations of my fellow students, before making a second attempt, and to avail myself of the didactic instruction afforded by the college course. Dr. Schimer gave a series of lectures on operative dentistry. Like all other lectures of the college, they were both interesting and instructive, but would have been more efficient had not Dr. Storley nullified their teachings by neglecting to supply us with good materials and serviceable laboratory apparatus.

The college gold was harsh as brass, and worked like sheet iron. In my poor opinion, it is doing the profession an injury to force such gold upon students. By greatly increasing the difficulty of the operations, it causes discouragement, and engenders habits of carelessness.

The year passed; I became a second course student, and my depositing and practical plates were to be made. I was particularly fortunate in finding an obliging patient, with an easily fitted mouth, who wanted a silver plate. By this time I had perfected myself in taking impressions and bites. I had comparatively little trouble, considering that the old, worn blow-pipe blew cold air at almost every second movement of the bellows, and that of the fourteen moulding boxes mentioned in the college announcement, but two were provided with sand. It was amusing to see the students waiting around from early in the morning for a chance at the boxes to run their dies and counter-dies, though not particularly conducive to good humor, unless one happened to have been among the fortunate ones. Suffice it to say that my plate was finished and accepted. Brown was a few weeks behind me with his practical, but he soon caught up. We had now only to make our depositing cases, put in our graduating fillings, and pass our examinations before the faculty of the college. I can honestly say that in the laboratory I never was taught a single thing about plate work. All that I learned was picked up from watching my fellow students. Thus you can easily imagine that my work was not of the highest order. Our plates were put together so as to have a fair appearance on the outside, but were mere shams of tooth grinding. I know that mine was as good as the average, for I saw those of the other students, and I assure you that when they were putting on the backings, as they always did after the teeth were invested, great care had to be taken not to lose the backings in the large gaps which appeared between the teeth and the plate. These defects were afterwards concealed by joining the backings at the bottom. Our plates finished, our next task was to put in our graduating fillings. This we succeeded in doing, after a fashion, as by this time we had become somewhat accustomed to college gold. I am sure that Dr. Shimer knew all about our troubles, and that he did not criticise our fillings nearly so severely as he otherwise would have done. Our examinations came, and, in fear and trembling, were passed. On notice night Brown and I were informed that we each had fifty-two votes. Hurrah! Our suspense was over. In great excitement we telegraphed the news to our respective homes, and spent the remainder of the night in feasting and rejoicing. At the class-supper kind and learned speeches were made by the various members of the faculty, for whom, with but one exception, I shall always entertain the deepest respect. Here my college life virtually ends. Of commencement I will not speak, as you are all familiar with the ceremonies of that eventful day. Thanking you for your kind attention, I will leave you to ponder upon the main incidents of my college career, and remain, gentlemen, your obedient servant,

Silas Dean.

P. S.—I have avoided speaking of the dark mysteries of the extracting room, purely out of regard for the best feelings of my readers. To have described the cries and ejaculations of the unfortunate patients whose jaws were fractured and teeth broken for want of efficient instruments, would have been both cruel and profane. I will merely state that Dr. Storley always reserved a new set of forceps for his own private use.

S. D.

DENTAL CARIES.

BY A. R. GAGE, D.D.S.

[Read before the Alumni Association of the Philadelphia Dental College, February 18, 1883.]

The old adage that "an ounce of prevention is worth a pound of cure," is as true of many dental diseases as a "stitch in time saves ninety and nine."

For the curriculum of studies in our present dental colleges, with the ever increasing knowledge in physiology and therapeutics of oral diseases, and especially the aid given us by recent energetic microscopists, here and abroad, presenting a broader and clearer field on which to stand in forming our diagnoses, thereby making us in every sense more of scientists than has formerly been the case, and I see no reason why we may not in so large a field make our diagnoses with the same definiteness as others, especially the arresting or treatment of dental diseases by, as I may call it, preventive therapeutics.

We know how rare the sight is of a perfect, sound, natural set of teeth in the young citizen of to-day. The cases seen by every dentist in his daily professional life of the young who are just starting in the struggle for life and, Achilles-like, have this one vulnerable spot, and nearly as fatal to their future happiness; we observe the fast decaying teeth, coated tongue, and nervous, dyspeptic look, when, by every law of nature these grinders should be as firm and strong as their cousins of the granite hill. Instead, we can, in the great majority of cases, see no resemblance to the Eastern poet's "Ivory Temple," through which are wafted (anything but) flowery laden zephyrs, and they can truthfully, if not poetically, say that their grinders cease because they are few. Yet we hear many say that this must in the long run bring grist to the dentist's mill, in the form of large fillings; but would we not rather, in a higher and nobler sense, have the recompense of our reward in the judicious guiding by our professional knowledge and unselfish advice this young citizen toward a less painful and much happier future of physical and especially mental health? For I think it is an undoubted fact that the dentist has many more opportunities for advising the young than any other part of the medical profession.

If a brook at the spring, its source, be soiled, does not the whole stream become tinged thereby? In a like manner, dental decay fouls our aliment at its commencement, and with far more serious results to stomach, blood, breath, nerves and brain; causing untold misery in the person's future life; and many an ambitious young athlete thus handicapped with a blood and brain irritant, fails even at the starting post in his race for fame.

Can we not prevent, or at least diminish some of these misfortunes? The old saying was, *forewarned is to be forearmed.* By questions into the previous history; by careful examinations and study of the pre-existing causes so that a clear diagnosis, first whether this lowered vitality is due to hereditary taint or disease, whether under medical treatment or whether a disease is nascent as yet in the blood; by judicious advice as to the daily treatment under the now well-known hygienic rules. We certainly would feel more satisfaction from our deeper and more definite thought as scientists, in alleviating the cause and not the result of this lowered vitality. In the quick growth of our cities where life is more of the brain work, with little muscular exercise, less regularity in habits, less sleep, and especially in the kind of food we take and the manner and time we give in mastication, bequeaths from father to son, not brawn and muscle, with good blood and quiet nerves, but an early decay in both structure and impaired nerve force; for there is close kinship between impoverished nerve-force and dental caries.

The several thories which have at different periods been advanced respecting the cause of death and molecular decompositions, called dental caries, have widely varied; each theory seemed to receive enthusiastic support, but no *one* has seemed sufficiently complete in itself to be accepted as a satisfactory explanation of this pathological phenomenon until the remarkable influence of the resistive force, *vitality*, was understood, giving a more satisfactory solution of the problem.

We see that the mouth is a chemical laboratory, where each element joins with the different fluids to produce (in health) that greatest and best of all created things, a bright, *healthy* man.

In caries where he has lost part of that vitality, on the contrary, an imperfect nutrition is the result; caries being a result of impaired nutrition, also resulting from chemical action, in each case more or less modified by the resistance of the vital forces. When this force is at par the destructive chemical action of the different acids taken in food is rendered innocuous, the resistance and repair of this vital force modifies the encroachment of disease.

Every moment of our lives we are exposed to, and do inhale, germs of minute description, so minute that they require the highest objectives to be seen by the microscope, with almost unlimited power of reproducing themselves. These are called bacteria or microcii. They have been most thoughtfully studied by Koch, of Germany, and Pastern, of France, who find in them the carriers of diseases that are contagious, and, like germs in variola, we may hope that that these discoveries may lead to some check to the devastations of zymotic diseases. Were not the sugar sweet which we have such relish for, and the acidity of fruits given us for our palate's enjoyment? Yet these are charged with the sensitiveness and decay of teeth, although, in many cases, harm has been done by taking strong acid without proper care; this can usually be prevented by using glass tubes or rinsing the mouth with an alkaline wash of a few drops of spirits of ammonia, in water, then brushing with soap. For the trouble of sensitiveness of some teeth, a good wash is made of potassa bromide, ½ dram, ½ goblet of tepid water, with ½ dram compound tincture of cardamon. Yet the injury to the teeth from medicines is not lasting, if the vital forces be not lowered.

The teeth should, under normal conditions, be capable of resisting the action of oral fluids. Where this is not the case the reason, I think, can be found if diligently sought for, either in lowered vital forces from some hereditary diseases; symptoms of such diseases are many times found in the persons of young people who have apparently healthy parents, often overstepping one generation—symptoms which show themselves especially about the head and mouth. It is often a great help to dentists if they are diagnosing, and especially prognosing a difficult case, to be informed what kind of treatment they have been under.

Mal-nutrition is another great source of dental caries. The great nervous strain commencing even in the youngest at our schools, and kept up by high living in more advanced years. Then we have over-stimulation added to nerve-strain, in the rush for wealth and power. These are destructive agents, not only to tooth structure, but especially to brain and, of course, life itself. The nervous temperament suffers first, owing to the quick response to every influence on the senses, with slow recuperative power, due to insufficient mastication and digestion.

The difference we see between the strong, hard teeth of the lymphatic people and the bluish-white and soft teeth of the nervous person, can be explained by the varied power of food assimilation, dependent upon nervous influence, as they both eat the same food, perhaps, from the same table.

Of the many theories of caries as the chemico-vital, electrical, parasitic, have each many adherents. The successful practitioner of to-day needs all the light he can procure from these, and especially upon the principles involved in therapeutic, manipulative and propylactic treatment of caries. The cause of caries is, in a great measure due to this loss of vital force from nervous exhaustion and depression which is one of the great results of our boasted civilization. How great the number of those even who succeed in grasping the prize of wealth or power, only to find as a result that they have lost the power to enjoy it. For there is no true happiness without bodily health.

CELLULOID.

When a set of plain teeth are artistically arranged on a celluloid plate, with stippled gum, it presents to the eye of the prosthetic dentist all the symmetry, beauty and natural appearance the most exacting æsthetic could possibly desire. But let him look at it again, after it has been worn a year or so. The beautiful purple-pink gum is now stained to a dull brown, more unsightly than rubber, and frequently the edges of the plate are curled out, or warped out of shape; beauty and usefulness gone—a double disappointment to the conscientious practitioner.

I know of nothing in mechanical dentistry so alluring, and at the same time so troublesome as celluloid; no matter how often you fail, its beauty of color, the lifelike position the teeth can be made to assume, inclines you to try it once more, probably with some undefined idea that it will be right this time, you go on with the work, only to be disappointed. I say this is the general result; the exceptional cases are where the plates can be very thick, thus giving them the proper strength and rigidity, but where a thin plate is made of it, failure is the result, sooner or later.

If used as a medium to fasten plain teeth to a metal plate, it performs good service, but must always be secured to the plate by headed pins, and confined between an outside and inside rim of metal soldered to the plate; it will then last as long as a rubber attachment, and its appearance is much more beautiful.

After having experimented with celluloid in every conceivable way, from its first appearance to the present time, I believe that I am fully justified in saying that its usefulness is limited to its employment as an attachment for plain teeth to some suitable metallic plate, and the few exceptional thick cases where the natural gum is flat and broad.

Celluloid requires too much force to form the plate over a plaster cast; the hardest plaster frequently gives way in some important spot, causing a misfit. Hollow tin casts are difficult to make and troublesome to release from the celluloid, even when partly sawn through. If the attempt is made to save the plaster cast from mashing down by raising the heat above 300°, then the color is turned from a pretty pink to a color resembling old gold.

The steam process, with me, produces the best results. I have used salted water, glycerine, paraffine, dry heat and steam; the last I believe to be the best, as the heat is distributed quicker and more evenly through the flask. In the dry heat process, the bottom of the heater becomes hot first, and before the mercury gives you notice the color of the plate is ruined.

Of the many different heaters, the New Mode is the cleanest and most easily managed, but it won't do to run it by the book of instructions that is given with it. I prefer the instruction book of the celluloid company; they, as the manufacturers of the material, ought to know the best method of working it. Their instructions accord with my experience.

The most satisfactory sets of teeth I have made (where celluloid formed a part), were made in the following way: A plate of Irridio-Platinum was stamped over a metal cast in the usual way, with cut-out air chamber; after the articulation is run with plaster, an outside and inside rim of the above metal is soldered to the plate, using 18 karat gold for the solder, at the same time short platinum pins are soldered to the plate between the two rims for the purpose of holding the celluloid close to the plate. If, in arranging the teeth, the pins should interfere, they can be bent out of the way. The teeth are then selected and set up in pink paraffine wax. I never use yellow beeswax in celluloid work. After the teeth are rearranged in the mouth to suit the operator and patient, the paraffine is carved in the proper curves and thickness required. I have abandoned the use of tin-foil and stippling for practical sets of teeth; the stippling gives a rough surface to the celluloid, making it very difficult for the patient to keep it properly cleansed. The case is now enclosed in the usual way; after opening the flask the paraffine is removed with boiling water. The vents for the surplus celluloid should be cut very large, and parallel with the sides of the cast. A number 3½ or 4½ lower celluloid blank is taken and cut the right length with a narrow jig saw. Placing the blank between the two halves of the flask, it is now placed in the New Mode heater, the screws adjusted, and the door fastened tight; the steam is now slowly let into the chamber and allowed to heat up for about ten minutes; the thermometer must be held at 300°; the screws are turned down evenly until the flask is closed, which can be seen through the glass door; the steam is then closed off, the flask removed to the clamp, and cooled off in cold water. W. R. HALL.

REPORT OF THE ANNUAL EXHIBITION OF THE BIOLOGICAL AND MICROSCOPICAL SECTION OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA.

The committee appointed by the Biological and Microscopical Section of the Academy of Natural Sciences to report the principal features of a public microscopical exhibition, held in the hall of the Academy, April 5, 1883, offer the following report:

We have felt how difficult it is to hold in remembrance, even long enough to frame a report, such a large mass of miscellaneous objects and facts as have been presented to our notice. Only the desire to render the section an impartial, yet not useless report, gives us any encouragement to undertake the task.

The museum of the Academy was lighted on the evening of the meeting, and, as has been usual on former similar occasions, the entire building was nearly filled with deeply interested students and observers of the minute, but beautiful, things in both the inorganic and organic worlds. Even a careless observer could not fail to notice the deep interest—far removed from mere curiosity—which our citizens take in such exhibitions. Hundreds of thinking people are thus brought eye to eye with the demonstration, that what *they* call the invisible world is as vast and as beautiful, and may be rendered as clearly visible, as the known objects which they daily see around them, and they leave the hall of microscopical science with juster and wider views of the beautiful world in which they live.

The entomological section was the only section of the Academy which contributed to the interest of the meeting. Its display of brilliant and interesting insects arranged in cases, visible but not to be handled, was a prominent feature of the evening, and will prove of educational value to many.

Your committee would report a general advance in microscopy since our last exhibition.

One hundred and nine microscopes of all grades of excellence and variety of forms were on our tables. Of this number, Zentmayer's counted 50, Beck 29, Crouch 12, J. S. Cheyney 11, Queen & Co. 7, Bousch & Lomb 7, Seidel & Polk 6, Seitz 2, Nachet 2, Hartnack 2, Seward 1.

Several microscopes claiming to be first-class, made regardless of expense, and fitted for all kinds of work, were on exhibition. In this class of microscopes Zentmayer gave us the ideal. His Centennial stand has no rival. Its splendid finish, simplicity of parts, durability and perfection of motions place it in advance of all others on exhibition. In this class of work imperfection is inexcusable. Beck also exhibited two first-class stands of recent work, and these stands have some motions lacking in the Centennial form. Crouch had one stand on exhibit claimed as first-class. Its workmanship was good, but its great undescribable merit is the honorable one of not having adopted Zentmayer's patent for swinging the sub-stage.

Since our last public meeting a gratifying improvement is reported in workmanship among microscopes of less pretension than those already mentioned. These second-class instruments are the ones with which most work is done, and excellence here is of supreme importance. Beck exhibited a new stand showing excellent workmanship for so cheap an instrument. The "Lithogical," by the same maker, is ingeniously adapted to the examination of rock sections. Zentmayer's "Histeological" and improved "Army" stands maintain their perfect finish and motion.

Queen & Co. exhibited a new model "Acme" stand of greatly improved workmanship. The stage is of black glass, and the tube has the "broadgauge" screw, also an adapter for the "society" screw. Their "College" microscope and "Amateur" show good work for a moderate price. Bousch & Lomb in all their microscope stands on exhibit, show their ability to do work which ranks among the best.

The microscopes shown by J. S. Cheyney had no pretension to fine finish, and could doubtfully be classed among instruments of precision. The style of work of every maker of microscopes is characteristic, and, like the style of authors in literature or science, soon become known to the expert. Instruments by other makers which were on the table and did so much for the entertainment of the evening, presented no new features, and have been noticed in earlier reports.

Beck and J. S. Cheyney each exhibited cameras adapted to microscopes for micro-photography by lamp-light. It is claimed that good results, with amateurs, can be secured in that way. The apparatus, however, contained nothing new, and the results gained (if a judgment may be based upon a number of pictures shown) indicate no recent advance in this kind of amateur photography. We accept it as better than nothing, but the eye instructed in detail is always disappointed.

J. S. Cheyney also exhibited a projection microscope, carrying a quadruple nose-piece, for photographic transparencies, polariscope, microscope and spectroscope, for projection. It is claimed that all these parts will swing into accurate centre, and can be instantly changed during a lecture. Your committee did not see the apparatus in action and therefore cannot more fully report.

On the subject of lenses, nothing not previously reported came to the notice of your committee.

The objects shown during the evening were numerous, and extremely varied, and many were exceedingly beautiful and of great interest. We can report only the most interesting, or those not mentioned formerly. From the animal kingdom the list is large. Human lung, engorgement in active pneumonia; human lung with all the capillaries filled with blood, in phthysis; circulation of blood in tail of fish and in salamander; action of the heart in living salamander, and branchial circulation in one view; section of rat's lung, and lung of squirrel with capillaries filled with blood in situ, double stained. Human spinal cord; spinal cord of cat; section of cat's tongue; leg of gyrinus, showing hairs used as paddles; skin of frog, injected; human tooth; liver of rabbit; skin of sole of foot, showing sweat glands; intestine of cat, injected; Rotifera vulgaris; Lascunularia socialis; Dictyophora; a new rotifera without rotating organs. Many living infusoria; Bacilli anthrax in lung, sometimes found in Anthrax and therefore the cause of anthrau; micro-maggots in cheese, therefore the cause of cheese; Elytron of cupes capitata; tarsus of dityscus; foot of spider and of fly; parasite and ova of anodonta; head of mosquito; ant lion; brain of sheep; section of the human heart; section of hand in human foetus, four months old, double stained; section of a bot from stomach of horse; transverse section of gastric tubes, human, double stained; flea from mole and dog; spinarets and foot of spider. Many acquatic larvæ; hooklets of wasps' wing; barbs of peacock's feather; elytra of diamond beetles; fresh water hyra; fresh water sponge; a series of 50 typical wools and hairs, commercial tests; eye of beetle, under a cobweb micrometer; wings of various butterflies, etc.

From the vegetable kingdom we report only the following, although the list was large: A series of 50 vegetable fibres—commercial tests; section of rubus; section of clematis; waterglands of nepenthes; fructification of several ferns; double stained; cyclosis of cell-sap in nitella and anacaris; section of ampelopsis stem; spirogyra in conjugation; leaf of detuzia; section of strammonium ovule; batrachospermum; hydrodictyon; isthmia nervosa; section of stem of umbrella plant; bulbochaeta; Coleochaeta, germinating spores of a moss; lamproderma; roestelia penicillato; physarum inequales; puccina; phragmedium speciosum; stemonites; section of a lichen; brasiolo crispa; tetraspora, many fresh water algæ and hepaticæ; seeds of collomia; epipactis, chrysosplenium, penthorum, etc.

Many beautiful crystals were shown; quinidine; ouvarorite (green garnet), from Canada; Pikrite; salicine; crystals of gold, silver and copper; zinc and quartz in natural section; plato-cyanide of magnesium and also of mercury. A vulcanite revolving disk holding four dozen crystals, all with names attached, and all carried simultaneously on the stage of the microscope; polycestinia selected and arranged by a lady; many diatoms of great buauty and rarity.

This exhibition excelled in the beauty and interest of its specimens all former ones, and the care taken generally in illumination evinced great advance in this department of microscopy. Yet it must be reported that greater care is still needed by many. Amateur microscopy may learn much at such exhibitions if the capacity to learn is not extinguished by egotism and by the adoption of imperfect standards of comparison. A bad specimen well shown is often more educational that a good one poorly shown. Bad displays invite erroneous interpretation. Opticians and workers in brass, have placed in the hands of students of microscopical science instruments of ideal perfection, and equal or greater skill is needed to reveal truthfully the structural refinements of organized beings.

To the Camden Microscopical society, and to the Entomological Section of the Academy we offer special thanks, and also to all other gentlemen and ladies who assisted by work or instruments, to advance the entertainment of the evening.

Respectfully submitted,
Jacob Binder, J. G. Hunt, M.D.,
Isaac Morris, M.D., Committee.

"RUBBER PLATES."

Bedford, Ind., April 30, 1883.

Editor Dental Practitioner.—Under the heading "Rubber Plates," W. R. Hall, in your journal for April, speaking of mercury in these plates "causing little ulcers" in the mouth, says: "Without a doubt the above is true in a few isolated cases." I wish to ask him, or any one who can answer, how can you demonstrate the truth of the assertion that mercury is absorbed from rubber plates? I, for one, believe it utterly impossible for such a thing to occur, and that able chemists have proved it impossible, as set forth in the journals during the past year. I hope those who believe the contrary will come forward with some proof to back up the oft-repeated assertion, or admit they have no such proof.

Further on Dr. Hall advises vulcanizing rubber at a temperature of 340°. This is a matter all can settle by a little experimentation. Still, his advice is contrary to that given by all the manufacturers and will make a plate very brittle, compared with one not allowed to reach a temperature above 320°. A high temperature increases the danger of a spongy or honeycombed condition of the plate.

He also advises the use of the lighter colored rubbers, because they have less caoutchouc to the pound. Dealers have heretofore praised their particular brand of rubber, because it had more caoutchouc to the pound than any other; that the nearer pure it was, the less red sulphuret of mercury, the less liable to injure the mouth, etc., and so said we all of us, I supposed, until Dr. Hall spoke.

I think that anyone who accepts the three points above noted as advocated by Dr. Hall, will eventually find he has been misled. I will thank him, or any one, to challenge the truth of any assertion they see in the journals that seem to them as likely to mislead as his points above mentioned. Respectfully, W. E. Driscoll.

The Dental Practitioner

CHAS. E. PIKE, EDITOR, 1415 WALNUT ST.

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THE annual meeting of the Odontographic Society of Pennsylvania was held on Wednesday evening, May 2, 1883.

The following officers were elected for the ensuing year:

President, Dr. L. Ashley Faught.

First Vice-President, Dr. W. A. Breen.

Second Vice-President, Dr. Ambler Tees.

Corresponding Secretary, Dr. J. P. Wyman.

Recording Secretary, Dr. C. E. Graves.

Treasurer, Dr. J. N. Wunderlich.

Librarian, Dr. F. R. Taber.

Curator, Dr. W. R. Webb.

Executive Committee, Dr. J. Lehman Eisenbrey, Chairman, Dr. E. C. Kirk, Dr. Charles E. Pike.

THE Nebraska State Dental Society meets at Lincoln, on the third Tuesday in May, 1883.

THE Kentucky State Dental Association holds its next meeting at Louisville on the first Tuesday in June, 1883.

THE California State Dental Association holds its 14th annual session at the Palace Hotel, San Francisco, on June 7, 8, 9 and 10, 1883.

WE admire the good judgment which the editors of the *Texas Dental Journal* display in selecting matter for publication. We have only to suggest in the mildest kind of way, that the next time they appropriate an article from the DENTAL PRACTITIONER (as they did the article on Impressions, by W. R. Hall), it would seem but just and proper that they should give due credit to the source from which they obtained it.

AMALGAM FILLINGS.

Much has been said and written, pro and con, relating to amalgam as a filling material. We do not propose to further discuss the question with regard to its usefulness in saving teeth, or the advisability of employing it in many cases which the dentist is called upon to treat.

It is conceded by a vast majority of the very best men in the profession that there are cases in which its skilful and intelligent use gives more satisfaction than can be obtained with any other material yet known to dentistry. We simply wish to enter our protest against the careless and slovenly manner in which it is frequently used, even by some of our best manipulators of gold.

We have seen mouths containing gold fillings whose artistic contours, and beautiful finish indicated a high degree of manipulative skill in that direction; and in the same mouth, amalgam fillings with rough surface, imperfect and often overhanging edges (and the whole appearance of which was a disgrace to any dentist), all put in by the same operator, of whose ability as a *dentist* we have no better opinion than we have of the man who can make a *good* amalgam filling, but whose operations in gold are not of the best.

It has been often said by those gentlemen who contend for the exclusive use of gold, that the failure of that material to produce invariably good results is due to defective manipulation. If this is true in regard to gold, it is no less true with regard to the material under consideration, and we believe that as large a percentage of its failures is due to the careless manner in which it is introduced and finished as is the case with any other material.

No one would expect satisfactory results from an imperfectly adapted, poorly finished gold filling, and we have not yet learned to expect more from amalgam when employed under like conditions.

That amalgam is most frequently indicated in teeth below the average in density, or in cavities of such extensive decay that the walls have become thin and friable, is no excuse for its hasty and unskilful employment. On the contrary, the poorer the tooth-structure, and the more delicate the walls of the cavity (or, in the language of the New Departurists) "the more a tooth needs saving" the greater the care and skill required both in the preparation of the cavity and the introduction and finishing of the filling, in order to accomplish that end,—no matter of what material the filling may be composed.

Judging from the appearance of many fillings seen in the class of teeth just mentioned, it would seem that the operator has hardly deemed them worthy of any attention at all, and that he was evidently not a believer in the old adage, "what is worth doing at all is worth doing *well.*"

A dentist's business success should depend, primarily, upon his ability to *save teeth*, and his reputation in this direction may as frequently be enhanced by the good results produced with amalgam in some badly decayed, broken down molar, as by his skill in the manipulation of gold.

We are not a believer in the wholesale use of amalgam, but we *do* use it where, in our judgment, it is indicated and with the indulgence of our readers, will give the manner of using it which has given us the most satisfaction.

The cavity should be absolutely dry, and carefully and thoroughly prepared,—in fact, when prepared it should be in as good condition as it would be if it were to receive a gold instead of an amalgam filling. The filings should be well incorporated with just sufficient mercury to form a smooth, easy working mass; this is most quickly and thoroughly done in a small mortar. In introducing the amalgam into the cavity, small or moderately sized pieces should be used, and each piece carefully adapted to the walls of the cavity or incorporated with that which has preceded it, by tapping with properly shaped instruments as reccommended by Prof. Flagg.

Should there be an excess of mercury, it must be removed from time to time during the progress of the filling until finally, when the cavity is full, all excess should be removed with pledgets of cotton, or, what we think better, by the use of wafers of amalgam from which all the mercury possible has been squeezed by the use of the pliers and buckskin.

If the amalgam should be a quick setting variety, a fairly good finish may be obtained at the time of introduction, but we never feel satisfied until at a subsequent sitting, when the filling has become thoroughly hard, we have had an opportunity to give it a final polish. In doing this we never use a burnisher, for if there are delicate edges they would be liable to fracture.

With the lava strips, emery cloth, tape and fine pumice, or with some of the various polishing points for use with the dental engine, there is little difficulty in obtaining a beautiful surface, with the junction between the filling and cavity-edge absolutely flush and perfect.

We are satisfied that very many of the failures of amalgam fillings would be averted by more careful attention to this last step of the operation. If any of our readers have never tried this method of using amalgam, we advise them to do so. They will be astonished at the neater and cleaner appearance of the mouth, to say nothing of the increased durability of the fillings.

PHILADELPHIA ACADEMY OF SURGERY.

STATED MEETING, DECEMBER 4, 1882.

The President, Prof. S. D. Gross, in the chair.

Dr. Ferdinand H. Gross reported a case of trigeminal neuralgia relieved by ligature of the carotid artery, and neurectomy, which is published in full in the *American Journal of the Medical Sciences* for April, 1883. He gave a condensed clinical history of the case extending over nine years, with an account of the various remedial measures undertaken for its relief. The result of the operative treatment may be summarized as follows:

1. The effect of the ligation of the common carotid artery was immediate relief in the domain of the first and second divisions of the trigeminal nerve; the period of immunity from pain in the second division being fully two years, while in the first division the pain has never returned, the relief there being probably permanent, and can only be accredited to the carotid ligation. The effect of this operation upon the third division of the nerve was too transient to count for anything.

It should be added that no impairment of intellect has followed the ligation. After the lapse of nearly two years and a half no disturbance of brain functions has been noticed either by Dr. Gross or the patient, or by any of those who are habitually associated with him.

2. The first neurectomy of the inferior dental nerve, eight months later, resulted in a period of relief from the neuralgia of about one year and three months—to remain within safe limits.

3. The last two operations, viz., the neurectomy of the superior maxillary, and the repetition of the operation upon the inferior dental nerve, were performed within two months of each other, September 14th and November 11th, respectively, and may be considered together. The result thus far is entirely satisfactory, the patient being now, three months later, completely relieved of the neuralgia.

The President, after thanking the lecturer of the evening for the interesting and exhaustive manner in which the subject had been presented, remarked that the paper was well worthy of elaborate discussion, and requested Prof. Bartholow, who was present as a visitor, to give his experience from a medical point of view.

Dr. Bartholow expressed his gratification at the privilege afforded him in listening to the paper, which he thought was full of instruction, but would prefer to suspend final judgment as to the ultimate result of the operations until a longer time, say, six months, had elapsed. While he could not speak of the subject as a surgeon, he would say that he had used, with good effect, in severe cases of neuralgia, deep hypodermic injections of chloroform, and in a number of instances with permanent good result. From five to fifteen minims was the quantity injected, but it was necessary to lodge the chloroform deeply and near the nerve-trunk. In only one case in his experience had there been any trouble from the formation of abscess after the use of this remedy.

Dr. Brinton stated that he had performed neurectomy three times, but in his experience there had been but little permanent good. In all the cases, the pain had returned in from six to twelve months. During that time, however, the patients were more or less comfortable, and regarded from this point of view, the operation would seem justifiable, as affording temporary respite from suffering.

Dr. Packard said he had operated on one case, in 1869, trephining the anterior wall of the antrum, drawing out the nerve and dividing it far back.

The patient, a gentleman from Minnesota, had suffered extremely for twenty-four years. He derived immediate relief from the operation, which lasted at least for six months after his return home; since which time Dr. Packard had not heard from him.

Dr. Willard related his experience with a case in which the inferior dental nerve was divided by trephining the ramus of the jaw. The patient had been a sufferer for five years, and had become addicted to the hypodermic use of morphia in enormous doses. The relief was partial for six months, when, the pain returning, a second operation was done, resecting an inch of the nerve, since which time, now six years, there has been no return of the disease.

Dr. Nancrede said that the remark made by Dr. F. H. Gross, with reference to the possibility of seeing the foramen rotundum through the orbit in some skulls, whilst in others it could not be seen, seemed of much interest, since Dr. Gross had shown on the two skulls he had presented, that a somewhat different manipulation would be necessary in order to divide the nerve close to its point of emergence from the cranium. A cursory glance would show that these two skulls presented marked examples of two types of orbital fossæ, viz.: the quadrate and the rounded. In the former, the transverse diameter is fully one-third greater than that from above downward, while in the latter they are nearly equal. Where, then, the transverse diameter very much exceeds that from above downwards, the floor of the orbit is, as it were, *raised*, and the foramen rotundum hidden from view; whereas, when the opposite measurements obtain, this opening can be seen. Dr. Nancrede then pointed out that the junction of the external angular process of the frontal bone with the malar, could be readily detected on the living subject as well as, approximately, the suture between the internal angular process of the frontal with the nasal process of the superior maxillary bone. Measuring between these two points would give the transverse diameter. Again, the supra-orbital notch, or foramen, is usually readily detected; while a line dropped from this point with a slight inclination outwards, will strike the margin of the orbit just above the infra-orbital foramen, which opening can be usually detected by careful palpation. Measurement between these points of the orbital margin would give the diameter from above downward. By comparing the diameters, Dr. Nancrede thought that one could predicate before an operation, whether the foramen rotundum could or could not be seen from the operation wound. It might seem a point of small importance, but in a delicate operation like that performed by Dr. Gross, the minutest details were of importance, and "forewarned was forearmed."

Dr. John B. Roberts was especially interested in the result of the ligation of the common carotid artery; and, as the relief of pain was probably due to cutting off the blood current from the central portion of the nerves involved, suggested that ligation of the internal carotid might be as beneficial. This, as shown by Wyeth, can readily be done just above the level of the top of the larynx.

Dr. R. J. Levis remarked, that in operations upon the inferior dental nerve he had sometimes found it difficult to draw the nerve out. In an edentulous jaw this might possibly not be so.

Dr. F. H. Gross, in closing the discussion said, Dr. Nancrede's remarks upon the anatomical points of the orbit were interesting, as showing the possibility of determining in advance of an operation by external measurements, the variations in the orbit of different skulls; but no matter what peculiar formation these measurements might lead him to suspect, he would still prefer Wagner's method of operating, although, in some cases, nice manipulation might be required to divide the nerve far back.

In Langenbeck's and Huter's subcutaneous operations, the nerve was divided in the spheno-maxillary fissure, but in Wagner's, the nerve is brought into view, and can be divided at a more central point, even at the foramen rotundum and behind Meckel's ganglion. In this operation, too, the violence done to the superior maxillary bone, as in Carnochan's mode, and some others, was avoided.

As to Dr. Robert's suggestions, to tie the internal carotid, the speaker thought he would prefer to boldly tie the common carotid. The object was, of course, to lessen the intra-cranial pressure and irritation. He further remarked, that whilst it was unfortunate that the neuralgia sometimes returned after neurectomy, they had nevertheless, heard of patients being relieved for years, and sometimes permanently, and that relief, even for a short time, from the atrocious pain of this malady was a great boon. He was fully in accord with the writer who had said: "The possibility of relapse should not militate against resection."

NOTE.—March 19, 1883. "At this date, over *four months* after the neurectomy of the inferior dental, and over *six months* after the operation upon the superior maxillary nerve, the patient continues entirely free from neuralgia." *Medical News.*

M. G. LE BON has called attention to two new and very effective antiseptics, the glyceroborate of calcium and the glyceroborate of sodium. They are both very soluble, odorless and unpoisonous, and deliquesce rapidly when exposed to the air. They are powerful antiseptic agents, even in very dilute solutions. The calcic salt appears to be the more effective of the two, in a therapeutic point of view, and may be applied, even in strong solution, and to so delicate an organ as the eye, without bad results. These salts have been proved to be excellent preservers of meat during a South American voyage.—*Popular Science Monthly.*

FOR MASKING THE ODOR OF IODOFORM, Dr. C. Scherk (*Pharm. Zeit.*, 1882, p. 740), recommends carbolic acid. On rubbing together 10 grms. of iodoform with .05 grm. carbolic acid and 2 drops of oil of peppermint, the disagreeable odor of iodoform is completely masked and will not appear again even on heating. The addition is somewhat less effectual if vaseline be used for the ointment; but is still more agreeable than tonka, balsam of Peru, oil of caraway, or oil of peppermint alone.—*Amer. Journ. of Pharm., March, 1883.*

CRANIAL NERVES.

CRANIAL NERVES.—By William Oscar Thrailkill, M.A., M.D., D.D.S., San Francisco and Oakland, California.

This is a chart, presenting, in a concise form, the number, name, foramen of exit, principal distributions and functions of the cranial nerves. To the student it might be convenient as a ready means of reference, but we cannot see that it contains any information which may not readily be obtained from the standard text books.

"I WOULDN'T be in Egypt," said Mrs. McGill, last week, "for all the wealth of Creosote." Seeing a look of astonishment in the faces of her auditors, she added: "Creosote, you know, was an old Roman god, and everything he touched turned into gold."

RULES FOR ALLOYING GOLD.

When the carat is known, to find the quantity of pure gold:

RULE.—Multiply the weight by the carat, and divide the product by 24.

Or, let C represent the carat;
" W " weight.

Formula: $$\frac{W \times C}{24} = \text{quantity of pure gold.}$$

EXAMPLE.—To find the quantity of gold in 156 grains of an alloy of 19 carats fine:

$$\frac{156 \times 19}{24} = \frac{2964}{24}\ 123\tfrac{1}{2} \text{ grains of pure gold.}$$

When the quantity of pure gold in an alloy is known, to find the carat.

RULE.—Multiply the weight of pure gold by 24, and divide the product by the weight of the mass.

Or, let A represent the weight of pure gold.
" W " " mass.
" C " carat.

Formula: $$\frac{A \times 24 = C}{W}$$

EXAMPLE.—In an alloy weighing 110 grains, containing pure gold, 80 grains, copper, 20, and silver 10, to find the carat of the mass:

$$\frac{80 \times 24}{110} = \frac{1920}{110} = 17.45 \text{ carat of mass.}$$

To find the carat of a mass composed of different qualities of gold, the carat and weight of each quality being known:

RULE.—Multiply the weight of each quality by its own carat, and divide the amount of the products by the weight of the whole mass.

EXAMPLE.—To find the carat of a mass of gold composed of 10 ounces of 20 carats gold, 15 ounces of 12 carats and 20 ounces of 10 carats:

$$\begin{array}{rl} 10 \times 20 = & 200 \\ 15 \times 12 = & 180 \\ 20 \times 10 = & 200 \\ \hline 45 & 580 \end{array}$$

$$\frac{580}{45} = 12.88 \text{ the carat of the mass.}$$

To reduce gold to a lower carat by adding an alloy containing no gold.

RULE.—Deduct the required carat from the carat to be lowered, then divide the remainder by the required carat, the quotient multiplied by the weight will give the quantity of alloy to be added.

Or, let A represent the carat to be lowered;
" B " " required weight;
" W " " weight.

Formula: $$\frac{A - B}{B} \times W = \text{weight of alloy.}$$

EXAMPLE 1.—To reduce 200 grains of 24 carat pure gold to 18 carats:

$$\frac{24 - 18}{18} \times 200 = \frac{6}{18} \times 200 = \frac{1200}{28} = 66.6 \text{ grs.}$$

of alloy.

EXAMPLE 2.—To reduce 258 grains of 21.6 carat gold (an Am. Eagle) to 18 carats:

$$\frac{21.6 - 18}{18} \times 258 = \frac{3.6}{18} \times 258 = \frac{928.8}{18} = 51.6 \text{ grs.}$$

of alloy.

To reduce gold to a lower carat by adding to it an alloy of gold of a standard lower than the desired carat:

RULE.—Subtract the required carat from the carat to be lowered, divide the remainder by the difference between the required carat and the carat of the coarser alloy, then multiply the quotient by the weight, and it will give the weight of the coarser alloy to be added.

Or, let A represent the carat to be lowered:
" B " " required carat;
" C " " coarser alloy;
" W " " weight.

Formula: $$\frac{A - B}{A - B} \times W = \text{weight of coarser alloy.}$$

EXAMPLE 1.—To reduce four ounces of 24 carat gold to 18 carat by adding 12 carat gold:

$$\frac{24 - 18}{18 - 12} \times 4 = \frac{6}{6} \times 4 = 4 \text{ oz. of } 12 \text{ carat of gold}$$

to be added.

EXAMPLE 2.—To reduce four ounces of 22 carat gold to 18 carat by adding 12 carat gold:

$$\frac{22 - 18}{18 - 12} \times 4 = \frac{4}{6} \times 4 = 2 \text{ oz. } 5 \text{ dwt. } 20 \text{ grains}$$

of 12 carat gold.

To raise the carat by adding pure gold or a finer alloy:

RULE.—Deduct the carat to be raised from the required carat, and divide the remainder by the difference between the required carat and the carat of pure gold (24), or that of the finer alloy (which ever is used), and then multiply the quotient by the weight, and it will give the weight of the pure gold or finer alloy to be added.

Or, let A represent the carat of pure gold or finer alloy;
Or, let B represent the required carat;
" C " carat to be raised;
" W " its weight

Formula: $$\frac{B - C}{A - B} \times W = \text{weight of pure gold or}$$

finer alloy.

EXAMPLE 1.—To raise 240 grains of 15 carat gold to 20 carats, by adding pure gold (24 carats).

$$\frac{20 - 15}{24 - 20} \times 240 = \frac{5}{4} \times 240 = \frac{1200}{4} = 300 \text{ grains}$$

pure gold to be added.

EXAMPLE 2.—To raise 45 ounces of 12.88 carat gold to 18 carat, by adding gold of 21.6 carat (American coin):

$$\frac{18 - 12.88}{21.6 - 18} \times 45 = \frac{5.12}{3.6} \times 45 = \frac{230.40}{2.6} = 64 \text{ oz.}$$

of coin to be added.—*Wildman.*

CAUTION.

We have lately been receiving complaints from several dentists concerning certain traveling salesmen who solict orders for our manufacture of teeth and then ship the puchaser a very inferior article of another manufacture.

Others complain that when they have purchased teeth from the stock carried by some salesmen, and which were represented to be Sibley's make they have afterwards found upon examination that the bulk of them consisted of a worthless make; very few being Sibley's teeth, which they had supposed they had been purchasing.

Again we have received several complaints against two or three unprincipled dealers from whom dentists have repeatedly ordered Sibley's teeth, and have invariably been sent those of another make. In all cases the parties making these complaints are familiar with our manufacture, and upon examination are able to detect the fraud.

But probably in very many cases, where the purchasers are not familiar with our styles and trade mark, the imposition is practiced without detection till *the teeth are put in use*. The reputation established for the superior quality of our teeth has caused these unprincipled parties, who have an article so inferior as not to be saleable upon its own merits, to resort to this deception.

In one of the cases last mentioned we must admit we were astonished that dealers of their standing heretofore should lend themselves to any such fraud or imposition upon members of the dental profession. To them we say—why not be frank and say you do not keep Sibley's teeth, and give your reasons for not keeping them,—namely, that your policy is to keep none but the highest-priced teeth and the poorest and cheapest tooth to be had, so as to disgust the profession with *any* of the lower-priced teeth. We have been told repeatedly by some dealers that the only trouble with our teeth is that "*they are too good for the price.*" We do not propose, however, to reduce the quality of them to please such dealers.

From members of the profession we would request an avoidance of dealing with irresponsible parties, and in all cases where you are not able to obtain our teeth from your nearest responsible dealer, or should they not have a good variety from which to select, send direct to us. We are confident we can send a selection that will well repay you for the delay in sending so far. All our gum-sections bear the trade mark, as shown in our advertisement on the last page of this journal. All others sold as our make are frauds and impositions. Respectfully,

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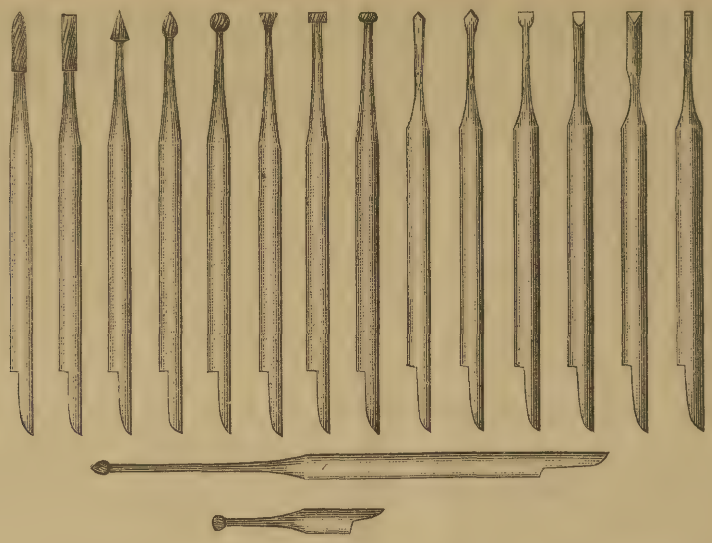

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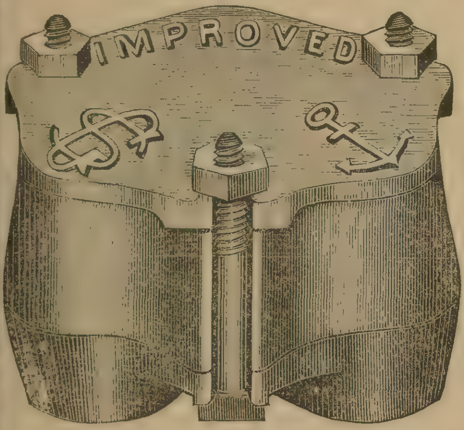

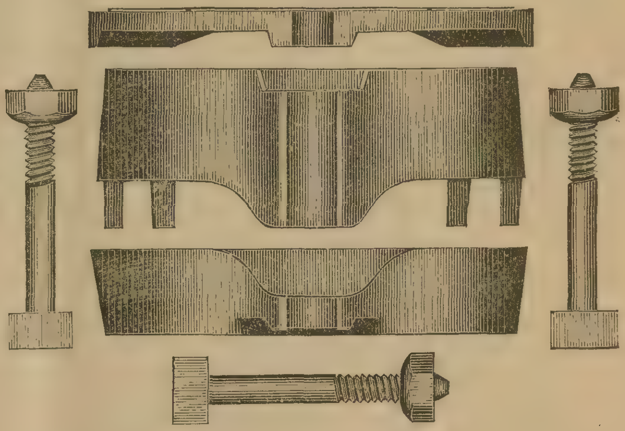

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force, enabling us to meet the demands of our increasing business. Our friends can rely o
the same careful attention to the workmanship and temper of our instruments. We ha
none but the most skillful in our repairing department, so that our customers may feel co
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Send for Price List; also, your orders and repairing

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J. M. EARNEST,

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OF ALL DESCRIPTIONS, WARRANTED EQUAL TO THE BEST MADE.

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This Amalgam has received the endorsement of the profession large for nearly forty years, which would seem to render any remar as to its excellence superfluous. Price, $3.00 per oz.

Purchase only of reliable dealers, their agents, or of the inventor and ON manufacturer,

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old Foil, and Dealers in All Kinds of Dental Goods.

GOLD CYLINDERS.

The Round Cylinders are mostly used for old style wedge filling.

We sell ten times as many Flattened Cylinders as we do of all the rest.

STYLE A.
Flattened.

Nos. ½ 1 1½ 2

STYLE A,
Loose, and can be used as Pellets.

Nos. ½ 1 1½ 2 3

STYLE B,
Loose, but more compact than Style A.

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STYLE C,
Compact, but not hard; used as Cylinders only.

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These numbers are to denote that No. ½ is a half sheet of No. 4 Gold Foil, cut into strips and lled into cylinders; No. 1, one sheet; No. 1½, one sheet and a half; No. 2, two sheets, etc.
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These cylinders are made from Soft Foil, otherwise called Accommodation Foil, and can be made hesive by annealing. The advantage over sheet foil is, that they are ready for use, and therefore save e time consumed in preparing foil; also loss in scraps. As they are made from Soft Foil, and cut by achinery into strips, and then rolled into cylinders, without any handling with the hands, they are in e most favorable condition for use.

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Per ⅛ ounce	$ 4.00
" ½ "	15.00
" 1 "	30.00
In 2 ounce lots, per oz.,	29.00

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1 OZ. TROY, $3.00.

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GOLD AND PLATINUM

ALLOY.

This Alloy is prepared under the supervision of an eminent analytical chemist, which enables us to guarantee the chemical purity of the metals used.

Having been subjected to the severest tests before offering it to the Dental Profession, it has been demonstrated that it will not shrink or expand, nor discolor in the mouth, and can be used in the Front Teeth with better results than any other Filling except Gold.

PRICES:

1 Oz., $3.00, 2 Ozs., $5.50, 4 Ozs., $10.00.

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DENTAL DEPOT,
13TH & FILBERT STREETS,
PHILADELPHIA, PA.

CARD.

IF you use other alloys and th
expand, causing your patient
return, with severe pain in t
tooth filled,
TRY ***Sibley's Alloy,*** *whi*
will not.

IF the alloy you use shrinks, th
allowing the fluids to enter t
cavity, and the decay to go
as freely as before filling,
TRY ***Sibley's Alloy,*** *whi*
will not.

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that they discolor in the mou
TRY ***Sibley's Alloy,*** *whi*
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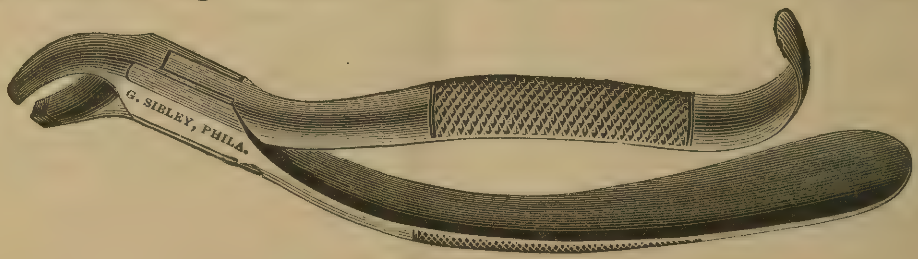
If you want a Reliable Article, try SIBLEY'S GOLD & PLATINUM ALLO

We Guarantee Satisfaction.

Put up in 1-oz., 2-3 oz. and 1-3 oz. Packages. **PRICE, $3.00 PER OUNCE.**

SIBLEY'S DENTAL FORCEP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These FORCEPS are of excellent finish—NICKEL PLATED. Their adaptation to both to hand is unsurpassed. The best quality of steel is used in their manufacture, and the greatest c cised in tempering them. Any Forceps broken, with proper use, within one year from the date urchase, will be exchanged.

Price, per Pair, Nickel Plated. - - - - - $2.25.
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PRICE

Two Colors,

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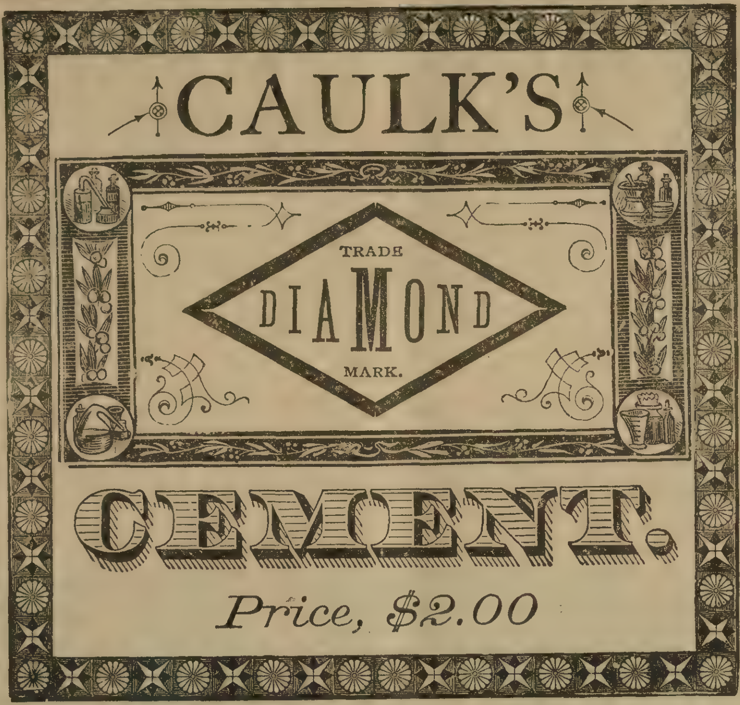
Per Package.



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One Color,

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Medium, Light,

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THIS COMPOUND NOW STANDS WITHOUT A RIVAL.

From Two to Four Years' Test by Leading Dentists Throughout the World, has Proved it to be all that has been claimed for it.

Fillings that have been Standing in the mouth OVER three years, in comparison with other plastic material in the market, show not only its SUPERIORITY, but it has proved to be *more insoluble* than many of the so-called insoluble cements. We have increased the quantity fully one-third, and all bottles are lettered with **"Caulk's Diamond Cement."**

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With one exception, we were the first to manufacture an Amalgam containing Gold and Platina, although we did not call it such, simply our trade name, "Par-Excellence Alloy," which fully expresses the superiority of this combination of metals over others. It has always contained the requisite quantity of these precious metals, in conjunction with Silver and Tin, mixed upon scientific principles, in their proper chemical relations to each other, to make it just what it has long since proven to be—the best Alloy for filling teeth in the market. The large and increasing sales during the past few years, have conclusively demonstrated this fact. **Price, $3 per oz., put up in 1 oz., 1-2 oz. & 1-3 oz. packages.**

CAULK'S WHITE ALLOY (For Incisor Teeth.)

This Alloy is made expressly for front teeth, is of a peculiar grayish-white color, which will retain its brightness under all circumstances. Price same as Par-Excellence Alloy. Two ounces, one of each, for $5.00.

Sold at all Dental Depots.

Caulk's Hydraulic Pebbles.

This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such materials. It is harder, tougher, and stronger; resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

Its *hydraulic* qualities render it invaluable for setting pivot teeth. It is so pliable that it can be moulded or shaped into various forms, and when crystalization is complete, can be carved and polished, same as the sculptor does his marble.

Price, large package, $3.00, small package, $1.50.

CAULK'S DIAMOND POINT STOPPING.

The Stopping is put up in *sealed envelopes*, and the Pellets and Cylinders in *sealed boxes*, each bearing a fac simile of our signature. PRICE, in ⅛, ¼ and ½ ounce packages, per ounce, $4.00.

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—MANUFACTURER OF—

SUPERIOR ARTIFICIAL TEETH.

RELIABLE IN STRENGTH AND ADAPTABILITY.

PERFECT IN SHADE, AND LIFE-LIKE IN APPEARANCE.

UNEQUALED IN QUALITY AND PRICE.

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In ordering from Dealers be sure and specify **Sibley's Teeth!** *See that all Gum Sections bear our Trade Mark, as above.*

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GIDEON SIBLEY,

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JUNE 15th, 1883. VOL. 1.—No. 6.

THE Dental Practitioner.

A MONTHLY JOURNAL.

Published by **GIDEON SIBLEY.** PHILADELPHIA. Edited by **CHAS. E. PIKE,** D.D.S.

Office of Publication, 13th and Filbert Streets, Philadelphia, Pa.

THE OMITTED CHAPTERS.

BY L. ASHLEY FAUGHT, D. D. S.

The science of dental education is supposed to be to day in a progressive stage. Our college graduate, therefore, should be better prepared to cope with the difficulties of active practice than were those of ten years ago. We venture the opinion, however, that in as much as many chapters were then entirely omitted, and not a few imperfectly taught, and yet the students' time at college fully occupied; therefore, the extended curriculum of to-day demands that the time required to be spent at college in order to graduate should be increased in proportion. Two years are no longer sufficient. It is greatly to be feared that the competition which has given enlarged courses of study, and supposed added advantages, is also coupled with a strong desire to lead in the number graduated in a given time, preventing proper prolongation of study, and yearly producing men either with superficial knowledge, or thoroughly crammed for the moment, to know nothing by and by-

The age seems to demand the course taught. It cannot be now very well contracted. The only other remedy must be speedily adopted. If so, it will be well if omitted chapters be then supplied.

Within the last few years the microscope has become so firmly rooted among us that little need be be said in its favor. The time has long since passed when it was held in no higher estimation than an interesting toy; but it is now acknowledged that it is impossible for any one to obtain even a moderate knowledge of any physical science without considerable acquaintance with the microscope and its practical use. The medical fraternity already are establishing full means for teaching, by lecture and laboratory, this important matter. It is believed that delay in providing dental students with specific instruction in this direction, is debarring them individually from important avenues of necessary knowledge; and the profession, from high distinction and honor in the fields of discovery. Microscopic research is specially adapted to the dental profession. To student and professor it has a bearing more or less directly upon the investigation and treatment of disease; to the young practitioner, it offers a field which will fully occupy spare mind, fingers and time profitably; and to him in the full tide of active practice, it provides a means of relaxation and rest without danger of stagnation.

Many of those among us now owning instruments, have purchased them in total ignorance of their use; simply because it is becoming quite the thing to be the possessor of so shapely a mass of brass. They are kept stowed away in their wooden boxes under lock and key, or under glass shades in the office. From these hiding places it is possible they are taken at long intervals, to exhibit to a crowd of admiring brother practitioners, equally ignorant, with considerable show of superiority, a section of tooth, a fragment of pulp, or some other tissue, *injected and double stained.* Oh! the wretchedness of such exhibitions, made and viewed in ignorance. Poor illumination, a wrongly chosen power, and specimens bought from the dealers, who make them by the hundreds *to sell*, with no attention whatever to preservation of structural detail—masses of indigo and carmine. Yet they are admired, and nature put to open shame on the floor of our societies, and not unfrequently in our lecture rooms.

How much further our own, and the knowledge of those around us, would be advanced if proper instruction had taught us that the American instruments, particularly those of Zentmayer, are superior to all others, and how to properly manipulate one; to make and prepare our own sections of tissue, that they may not be ruined in the mounting; and, finally, to be able to recognize a good specimen, showing tissue, from those which are but worthless mummies.

Many in the full tide of successful practice, and most of the recent graduates, often in thought feel the need of instruction in methods of meeting what may be termed dental emergencies.

Unless these omitted chapters are soon supplied by our colleges, increasing numbers may cause an exposure of not a few who have felt the want in fact and reality.

Instructors press home upon the mind the necessity of using a small quantity of arsenious acid for pulp devitalization, and of so securing such applications that they may not escape and cause local or systemic trouble.

We believe that if a quantity of this drug were given to graduates or even practitioners, with the request to separate a portion which should prove the largest safe dose for internal administration, the result would make but sad work if relied upon; and that not many would be prepared to meet promptly and treat every untoward indication which is possible to arise from misuse.

That which is referred to here is also true in large measure of many other drugs, which the dentist is empowered to use by his diploma, but left without a thorough grounding in the management of apparently fatal results.

The province of our paper, however, is to incicate generally, rather than to definitely name. But thoughtful reflection on the part of those intrusted with college management will soon show them that it would be well if the course of instruction included some branches hithertofore omitted, and if many now taught were carried into more thorough detail.

Perhaps it is not out of place to suggest in this connection that the best interests of the profession in this direction and in many others, would be far more surely secured if members of the profession, especially alumni of an institution, were largely components of its Board of Trustees. For, not being interested personally in the financial success of the college, it is evident that they would be apt to so supervise the Faculty management that a higher standard in the examination of candidates for graduation would be soon established and *maintained*, and the course of instruction if necessary filled out and lengthened in point of time. Far more than this, the evils of a college dispensary as at present maintained would soon be abridged, and even though the profits of the professors lost the addition of the revenue from this source, the services of the institution would be confined strictly *to those not able to pay the fee of a regular practitioner.*

Indianite Cement.—Finely chopped India-rubber, 100 parts; resin, 15 parts; shellac, 10 parts. Dissolve the whole in bisulphide of carbon to the consistency of a cement. Useful in joining wood, metals and glass.—*Druggists' Circular.*

THE DENTAL PRACTITIONER FOR MAY.

BY W. E. DRISCOLL.

"The College Experience of Silas Dean" illustrates the important fact that we do not so much need a transcen*dental* curriculum for the colleges as a thorough drilling in what the least pretentious of them claims to teach. Let the gentlemen who waste so much energy in an endeavor to increase the list of studies in the colleges, devote some of this wasted force in teaching what the colleges already claim to teach, and we will not have so many "graduates" who not only lack a medical education which they do not intend to practice, but are also lacking in a great measure an education in dentistry which they will practice.

"Dental Caries," by A. R. Gage, D. D. S., would probably have been modified somewhat had he read and appreciated the article of Prof. Geo. Watt in the Jan. 1883 No. of the Ohio State Journal of Dental Science, on the action of the acids in the buccul cavity in their nascent state. To ignore Dr. Watts' researches on this subject cannot be called a satisfactory discussion of the subject of dental caries. "Celluloid," by W. R. Hall, I am glad to see puts this article *down* where it belongs on the list of materials for bases for artificial teeth. It is surprising how long the dental profession has consented to be a party to such a delusion and sham as this whole celluloid business has been from first to last.

The other articles in the Practitioner for May, though interesting, call for no special comment, except the one on "Amalgam Fillings." As the use of amalgam can not be talked or written down, there can be no doubt that one can do more good in his day and generation in pointing out any improvement in its use which he may discover, than to add anything for or against its use at present. Too much mercury is used in these fillings. This is due partly, no doubt, to a dread of crumbling should the smallest possible amount be used. The fact is that some of them do not crumble so much in packing with the least possible amount of mercury as they do with any more than such a small amouut. Hence some dentists condemn a good article of amalgam because they have never learned to work any with a small proportion of mercury. To such I will say, varnish the cavity with copal-aether, incline the patient so gravitation will assist in placing the material in the cavity in very small pieces at a time. Place a napkin or finger close to the cavity so as to catch falling pieces. After a little experience in these directions I do not apprehend that many will return to the slovenly way of using amalgam soft, or even moderately so.

Where one desires to line the cervical portion of the cavity with a thin layer of gutta-percha, to secure the valuable effect of this material in the place where it will do the most good, yet, to protect it from attrition by a harder material, then the use of amalgam packed solid upon it with the least practicable amount of mercury gives a better result than if used soft. The retention of this combination filling while the amalgam is setting, can be aided in many of the above mentioned cavities by packing cotton charged with copal-aether varnish between the filling and an approximating tooth, whereas if the amalgam was soft such pressure would destroy its contour. In cases where the patient may not return for polishing the filling after it has fully hardened, any other way than using the amalgam as hard as it can be handled is hardly worth the time it takes to make such a filling. The result is too doubtful. An amalgam filling packed while as hard as may be, will set with much less danger of leaking before that process is accomplished.

"MANY MEN OF MANY MINDS."

BY E. L. DESNEY, PEABODY, KANS.

While reading late reports of the proceedings of various "Dental Associations," I was struck with the conflicting statements, theories and methods as presented by the different members.

From their discussions one would be led to think that some of them could make an absolutely new tooth, enamel and all, out of an old one. They have only to "speak the word," as it were, and "it would stand fast." By some device unknown to others, at their behest, a living, sensitive nerve would quiet down, shrink away, and forever remain restful, painless and peaceful.

It would seem from their positive and rather haughty sayings that they *never* knew failure. They never made a misfit, never had to cut out a filling or refill a tooth, never broke a tooth, or left in a root when extracting teeth. What a blessed state! What a bright elysium! Would that we could all attain to it.

Peruse those reports a little farther. A gentleman says, with great *hauteur*, that he devitalizes the pulp, takes out *every* vestige of the nerve, drills out the canal, treats with carbolic acid, eucalyptus oil and idioform, or something else, then fills the canal with a stick, common pink tryal-plate gutta percha, or anything, but is careful to seal it up *air-tight*, because it is the oxygen that irritates.

Another doctor takes the floor to say, in a more humble way, that in many cases you cannot, or do not, entirely extirpate the nerve. You "humbug" yourself when you think so. It is impossible and unnecessary. He then proceeds to descrbe *his* method, which is so entirely different from the preceding that the unexperienced, especially, are caused to to query which is right.

Again, one D. D. S. affirms that it is very bad practice in filling approximal cavities, or cavities in the articulating surfaces of opposing teeth, to put amalgam in one and gold in the other, serious results supervene; a galvanic action takes place, causing discomfort and pain to the patient, and, finally, destruction of one or both teeth.

Now another arises to say that he has never had such experience in his practice, and, in fact, puts amalgam and gold together in the same tooth wherever he can.

Such instances of conflicting methods of practice might be numerously multiplied, but the above will suffice the purpose for which this article is written. What more do they prove than that "great men will differ?" If the mighty solons of our profession do not agree, what about the "lesser lights?" How are novitiates to know what to do. Are they not driven to the alternative of experiment? I would think so, and that, too, at the risk of making for themselves good enviable reputations.

Experimenting is uncertain and often dangerous business, although experience is said to be the best of teachers; but what else can we do? *Et experientia docet stultos.*

Having recently read a great deal on the different methods of mounting artificial crowns, I feel an inclination to report a case in my own practise. There was nothing new in my method, but the success attained is, I think, worthy of mention. The case is that of mounting a right superior lateral incisor in the "old way," with hickory pin, which for fifteen years did service and gave good satisfaction. I am led by it and by success in other operations, to the conclusion that in order to achieve success you must have first, a good basis on which to work; second, good materials; third, be careful and painstaking in all your manipulations; fourth, one method is as good as another if as successful.

ANOTHER OPINION ON CELLULOID.

BY DR. T. C. HOWE, NEBRASKA.

My experience in the use of celluloid does not exactly correspond with the statement of W. R. Hall in the May number of your journal, which is just received. I will admit that it requires far more mechanical skill to manipulate than rubber, but the beauty of the work, when artistically finished, more than compensates for the extra amount of care and labor required. As to durability I think it equals, if it does not excel, that of rubber. I have now used it for about 3½ years. The first 2 years I experimented in various ways to obtain best results. In my method of using now, good plaster casts are not forced out of place, only in exceptional cases of carelessness; nor do I meet with the trouble in repairing old plates that is such a terror to so many practitioners. I cannot induce any of my patients to accept of rubber work, even at reduced prices, after seeing my celluloid samples. I will give my method of working celluloid, in the hope that it may be of use to some that wish to use it, but are inclined to abandon it, discouraged by frequent failures. I use plain teeth universally; do not think gum teeth are adapted to celluloid work. After my cast is properly dressed up, I sift a little French chalk over it and rub it in thoroughly, blowing off that remaining loose. This prevents particles of base-plate adhering, also leaves the finished plate with smooth, clean surface. I wax up the teeth a little heavier than I require the plate, to be able to dress off all inequalities, thereby guaranteeing a finely polished surface that can readily be cleaned by the wearer. In investing my model in the lower half of flask, I fill up with plaster just flush with the lower edge of base-plate at labial portions, making good condyles; filling remainder of flask in the usual manner. After separating flask and cleaning teeth of wax see that the teeth are firm in the plaster, as plain teeth are much more liable to drop out than gum teeth. If by inverting upper half of flask and shaking any of the teeth drop out, place a drop or two of sandarach in the depression and firmly press tooth to place, allowing varnish to set and all will be well. Before I took this precaution, when I removed the plate from the flask I have sometimes found a single tooth imbedded in palatal portion of plate. When using metal air chamber, after filling, I rub French chalk over the surface to be exposed and fasten in place. Frequently I cut out a chamber in the impression and have one ready formed on the cast. If the base-plate is extra thick in any part of alveolar portions, I select celluloid blanks that fit the cast and of half sizes, as 3½, 4½, etc. If the palatine arch be high, have blank enough broader than cast to allow palatal part to be brought down to the model before actual pressure begins. I use dry heat, in the Ransom & Randolph old style Vulcanizer, which has a screw in the cover of the boiler for closing the flask. Into this cover I had a strong styrrup placed (made of Swedes iron) which holds my flask suspended in the boiler and not coming in contact with any part of it, insuring me a perfectly even heat. I commence to slowly close my flask at 280°, but allow it to reach 340° before perfectly closing. By means of the styrrup in the cover it can be taken off and examined to see if the flask is perfectly closed; if not, it can be returned and closing perfected.

I never use water to cool Vulcanizer in celluloid work, giving it at least 12 hours to cool.

In repairing, prepare same as for rubber; fit a piece of celluloid as nearly as possible to dove-tailed part, being sure to have quite a little surplus. After flasking, cleaning thoroughly, etc., thoroughly wet the part exposed with strong spirits of camphor, allowing a little time for it to be absorbed; now place your new material in position, saturate well with camphor again, and proceed as above.

In working by above method the dull brown that W. R. H. says obtains in plates in a year or two has not taken place as far as my observation has extended.

HINTS TO BEGINNERS.

BY QUERULOUS.

Young man, you are about to venture into an untried field. You feel that you are fairly qualified for the duties of your profession, and are ready to take a place at the head of the procession,—we mean *profession*. Be admonished, then, first of all, that your calling is one which requires of you a spirit of self-denial, severe application, patience and thoroughness. It should not be entered upon with sordid anticipations of piling up wealth and attaining in a few years, to a condition of folding one's hands and resting in luxurious ease. Possibly the Dean of your College suggested some such ideas as the above, on the day of your graduation. You may depend upon it that your worthy Dean knew what he was talking about when he gave you this advice. The graduates of law and medical schools are always dismissed with similar virtuous admonitions, which no doubt exert a powerful influence over them throughout life, in the way of restraining them from exacting exorbitant fees.

We will suppose that you have selected your field of practice in village, town, or city, as the case may be. If you hold an estimate of the dignity and importance of your calling that leads you to suppose that every individual in the community has long anxiously awaited your coming, thinking absorbingly about your mission and his own teeth, so much the better. We picture you as a rather genteel young man, well dressed, affable, and perhaps —modest. The girls will like you, that we confidently predict,—and you will greatly enjoy driving, rowing and pic-nicing with them. You should not, however, despond if, during the first year or two, they seem to be coy about enjoying you professionally. They must be allowed time to find out how vastly superior you are to old Dr. Plasticus, who divides his time between dentistry and a poultry farm. By the way: you can better employ your tongue than by ridiculing old Dr. P. Some of these old behind-the-times are pretty shrewd, after all. May be that while you are secretly pitying Dr. P. and magnanimously wishing that an opportunity would offer you to communicate to him some of your invaluable knowledge about the latest improved methods, he is secretly wishing that he could summon moral courage to tell you that he long ago tried, and has almost forgotten several of the ideas which you introduce as the newest of the new. Possibly he has learned one lesson that you will be slow to learn: that the dentist is made for the people and not the people for the dentist. Possibly you may discover that he catches more fish with his pin-kook than you can catch with your latest improved snap-hook. We knew a young graduate who located in a town, and set up in the business of ridiculing a rival, an old Dr. Hillstopping. After the lapse of several months, our young graduate announced through the columns of the county paper that he would be absent a week in attendance upon the meeting of the State Dental Association. To his great surprise he found that Dr. H. had preceeded him there, and his amazement was complete when Dr. H. arose in the convention and read a paper which seemed to greatly interest that body. He fnrther learned that Dr. H. had long been a member of the association; that he graduated at the same college from which he (the y. g.) received his diploma, and that he declined a professorship in the same college, a few years back, about the same time the young graduate was weaned. Inflammatory rheumatism is a picnic, with a cheque for $100 thrown in, in comparison with the young graduate's vexation and chagrin, as he sat and witnessed Dr. H. holding his audience spellbound, while he discoursed about leptothrix and amœbæ, and pyorrhœa alveolaris. And when *he* in turn got up to enlighten the members as to his method of manipulating No. 60 foil, to have them yawn and look tired, and, perhaps, have three or four committees come in and interrupt him with their reports! The young graduate went home in high dudgeon, but he had learned a valuable lesson; the first one of a special course of instruction which ought to supplement the regular course of study in all our dental colleges.

But we were talking about your getting settled. You are probably in a strange community. You expect to take the place by storm, because Dr. H., whatever he may be in the dental convention, is certainly an old fogy at home. Somehow or other you don't find as much new work to be done as you hoped for, but you manage to keep fairly busy, digging Dr. H.'s gutta-percha fillings out of buccal cavitives, and refilling with gold. It is usually pretty difficult to get the dam down below the margin of these cavities, and much moral persuasion is required to get your patient to submit to the unavoidable infliction of pain. You finish one such operation, and your patient concludes to wait a few days before having nothers of a similar character refilled. He waits a month—six months—and you begin to think he doesn't appreciate the value of his teeth. But be patient; he will probably return before the year expires, and you will want to drill through the crown and remove the decomposing pulp in that tooth. But possibly he will not exhibit that deference for yovr professional opinion which you think is your due. He will conclude to let the old thing go, and you will ever after have a disagreeable feeling when you meet him on the street. People do not seem to defer to a dentist as they would to a doctor. We must patiently educate them.

Well, the era of wealth-accumulating for you has not yet arrived, but you are confident it will after a while. A dollar a day for spending money will be enough to furnish you two or three buggy rides a week. If you do not care particularly for that kind of recreation, you will perhaps be just as well satisfied to save the money, and so provide against any unpleasantness with your landlord.

But we really think you will succeed. Your income the first year will be $2,000. No beginner ever varies more or less from this figure, the first year. We *did* once hear of a young dentist whose income the first year was $1,982. He had joined the church, and was teaching a class in the Sabbath school at the time he made this statement. The second year he became a backslider; made to himself friends of the "mammon of unrighteousness," and his income at once rose to $4,500. The usual rate of increase in incomes is, say—$3,500 the second year, $5,000 the third, $7,000 the fourth, and so on, until the dentist owns the county. Dentists are usually very reticent about their wealth, so that the real facts about the lucrativeness of dental practice seldom come to light. The true reason why dentists who have become wealthy so seldom retire, is that there is a certain mild excitement and a peculiar exhilaration derived from working in people's mouths, to which old practitioners become so habituated that they cannot be happy in idleness, or in other less stimulating pursuits.

Don't trouble yourself, just now, about other dentists' incomes, and don't use too much figurative language in talking about your own income. If you have gathered from the foregoing that we are inclined to poke fun at you, be assured that we mean to say nothing to your detriment. We hope you do not belong to that class who go about volunteering suggestions about this, that and the other operation of the treatment of a case, to fellow practitioners who, in the first place, have enjoyed facilities for learning their duties quite equal to those you have enjoyed, and in the second place, have the advantage of a wider experience than you have had. We have seen such young men, and have enjoyed their self-complacency, though not perhaps quite as much as they themselves enjoyed it. Now we are going to drop our tone of pleasantry, and volunteer, in a modest way, a few practical hints, which may be of value, possibly. Make up your mind in the start to do the *very best* in your power, for each and every one who comes to you. Beware of sloth. You are about to fill a tooth; the day is warm and you have had a hearty dinner, and are not disposed to exert yourself. Why not fill this tooth with a plastic? Your patient does not look as if he could pay for a gold. It will take you two hours to fill with gold against fifteen minutes with amalgam or something else. Now you need grace to nerve yourself to do your best, whether you are to be well paid for your services or not. Shake off your stupor; resolve that you will not smooth the way for an afternoon of ease. If the case requires gold, use it, even if you must work for the price of the material. You say to yourself: "Oh, I don't expect ever to see this fellow again." How can you tell? He may send you hundreds of dollars worth of work. Many beginners seem to have an idea that a dentist finishes his work for a patient, and that is the last of that one. Ten to one it is only the beginning. Every tooth you fill is an advertisement. You may advertise with amalgam or you may advertise with gold, and the fruit is a one thousand dollar income or a three thousand dollar one, accordingly. The difference between two dentists' incomes frequently represents a difference in energy and application rather than a difference in opportunity. One man yields to the first call for amalgam; another puts in ten minutes' extra work in the way of talk, and gets a good fee for a good filling as his reward. The biggest income not unfrequently attaches to the man who talks most glibly. You say, of course, he is a quack. Oh, no, not necessarily.

Again; learn to seize the first opportunity, and work when a chance first offers. Don't put off your patients needlessly, as some do. Send word to that fellow who is waiting for you down in the drug store that you have a chance to work and will play checkers with him some other time. Work *now*, while you can, and avoid the habit of procrastination.

The successful dentist is always a student of human nature. He never relies wholly upon his superiority in his art, for he knows well enough that a man may excel his rivals in skill and yet not gain practice. We have seen dentists deport themselves as if they thought they were patronizing their patients instead of being patronized by them. Now an individual comes to you to consult you professionally. He defers to your opinion as to what may be required; at the same time he will think you somewhat singular if, after having seated him in your chair, you proceed to act the part of the autocrat, as in the following conversation we recently overheard:

"Doctor, this tooth has been aching off and on for several—"

"Open your mouth!"

"It has hurt me consid—"

"*Wider*, WIDER!"

"Whenever I—"

"Tell me which tooth."

"Don't you think it had better be—"

"That's all right; never you mind about *that*."

No man who presumes on such rudeness as this will add to his popularity by his actions. The young man who assumes a lofty superiority and disdains common civility, will lack for patronage. At the same time firmness and decision, when properly exercised, are invaluable qualities. It pays to decline to work for some people.

Be careful how you handle your patients. Some men have a faculty of moving about quietly and calmly, while proceeding with an operation, dropping a kind word of assurance occasionally (which costs nothing), and gaining the confidence of the patient. Others grab hold of the patient's head and thrust it back against the head-rest, as if he were a culprit about to be decapitated. Observation will convince any one that there is much needless infliction of pain by many operators. There is too much blundering along with dull excavators, too much abuse of the engine, and of finishing strips, and of clamps. Some operators seem to regard it as an admirable exhibition of heroism to hurt the patient considerably more than is necessary. "Does that hurt?" we recently heard a dentist ask his patient. "Well, I don't care if it does," he added (good-naturedly, to be sure, and as if he really expected the patient to appreciate the joke.) Do we gain anything by exhibiting contempt for our patients' terror? We have known the dentist to be shunned on the street by those whose resentment he incurred through his heartlessness. It is not necessary to suppress sympathy in order to preserve one's standard of excellence in operating. It will be dollars in your pocket simply to express to your patient, after you have finished a severe operation, your regret that you had to hurt him so.

The art of collecting needs to be thoroughly studied. It is just as well to give your patient, whoever he may be, some hint of what your charge will be. Never lower your fee. It is far better to *give* your patient the difference between what you want him to pay and what he can afford to pay, than to surrender to him a certain advantage (which he may use to your annoyance), if you yield to his claim that you charge too much. This may seem to be a distinction without a differrence, but it is not. The chances are that if you do not make him perceive that he is under obligation to you he will conceive that you are under obligation to him.

There is no reason why dentists should not collect their bills monthly. In just so far as you extend the limits of your credits you increase the risk of never collecting at all. People in plenty will be found who are willing to take the risk o being in funds to meet your bill six months hence, if you are disposed to be lax about it. The safest plan is to work only for cash. What you lose of patronage thereby you will more than gain in the sense of security you will enjoy."—*Ohio State Journal of Dental Science.*

HARDENING STEEL.—According to a Sheffield paper a very fine preparation for making steel very hard is composed of wheat flour, salt, and water, using say two teaspoonsful of water, one half a teaspoonful of flour, and one of salt. Heat the steel to be hardened enough to coat it with the paste by immersing it in the compound, after which heat it to a cherry red and plunge it into soft water. If properly done the steel will come out with a beautiful white surface. It is said that Stubbs' files are hardened in this manner.—*Druggists Circular.*

The Dental Practitioner

CHAS. E. PIKE, EDITOR, 1415 WALNUT ST.

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THE MISSOURI DENTAL JOURNAL.—We have received the April number of this valuable journal, which is the first one published under its new management, having been purchased by J. L. Brewster, Jr., of Kansas City. It is ably edited by Dr. R. J. Pearson, assisted by Drs. J. D. Patterson and C. L. Hungerford. If we may judge from the first efforts of its editors, the high standard of its past reputation will be fully maintained, and we shall look for its monthly visits with much interest.

NOTES ON OPERATIVE DENTISTRY.

BY MARSHALL H. WEBB, D.D.S.

Philadelphia. The S. S. White Dental Manufacturing Co., 1883.

Members of the profession have for some time been apprised of the intended publication of this work, and are to be congratulated that it is now within their reach.

It maintains a position on certain questions which will find many objectors, and were it not for the fact that the author has passed from the scene of his labors, might be subject to severe criticism. Every man is entitled to his own opinions and to respectful attention whenever he presents them in the proper spirit.

This book contains the opinions entertained by Dr. Webb upon the subject of operative dentistry, and a description of the methods employed by him to produce those beautiful results for which he was so justly celebrated.

In the preface he says: "These Notes on Operative Dentistry are published for the purpose of aiding those engaged in performing operations for the preservation of the natural teeth, and to enable the earnest, careful student, who possesses the necessary ability, to become such a practitioner as every one should desire and aim to be,—the author believing that if the methods described are faithfully followed each student can make of himself a really fine operator.

In the description of details, the modes of treatment of the teeth and of operating upon them must necessarily be the methods practiced by the author, and he gives those only which have proved to be, not the easiest but the very best."

In the first chapter, forty pages are devoted to the subject of "Histology," in which the results of recent investigations by Heitzmann and Bodecker are very fully given.

The results of Dr. Bodecker's researches of the normal pulp are given as follows:

1. "The dental pulp is a variety of connective-tissue and termed myxomatous, representing an embryonal form of it. Pulp-tissue, therefore, is a remnant of embryonal tissue, lasting in some instances throughout life, and kindred to those formations termed adenoid tissue.

2. "The myxomatous tissue of the pulp is intermxied with a delicate fibrous connective tissue in varying quantities. Pulps entirely or nearly built up by fibrous connective tissue probably are not to be considered physiological.

3. "The pulp-tissue is traversed by a close system of blood-vessels, viz: arteries, veins, and capillaries. Arteries are not invariably found in the pulp, but they are by no means of exceptional occurrence. Lymphatics in small numbers are also present.

4. "The pulp-tissue is richly supplied with nerves, which, in the shape of bundles of medullated nerve-fibres traverse the myxomatous tissue. Toward the peri-

phery of the pulp they lose their myeline sheaths, become non-medullated, and, in the shape of minute beaded fibrillæ, branch between the odontoblasts.

5. "The odontoblasts at the perpihery of the pulp are elongated bioplosson formations with rows of nuclei. They are medullary corpuscles such as we see wherever a new tissue arises from a former one. They build up the basis substance of the dentine by solidification (transformation into glue, and infiltration with lime salts). The reticulum of living matter traversing the odontoblasts remains unchanged in the basis-substance of the dentine.

6. "The dentinal fibres originate between the odontoblasts. Being formations of living matter, they are in direct connection with the reticulum of living matter—first of the odontoblasts and afterwards of the basis-substance of the dentine. The connection between the ultimate nerve-fibrillæ and the dentinal fibers is very probably an indirect one by means of the intervening reticulum of living matter."

The results of Dr. Frank Abbott's microscopical examination of many decayed teeth from the mouths of over thirty different persons, are summed up as follows:

1. "In enamel, caries in its earliest stage is a chemical process. After the lime-salts are dissolved out, and the basis-substance liqufied, the protoplasm reappears, and breaks apart into small, irregularly-shaped, so-called medullary or embryonal bodies.

2. "Caries of dentine consists in a decalcification, and in turn a dissolution of the glue-giving basis-substance, around the canaliculi as well as between them. The living matter contained in the canaliculi is transformed into nucleated protoplasmic bodies, which, together with protoplasmic bodies originating from the living matter in the basis-substance, form the so-called indifferent or inflammatory tissue.

3. "Cement, if attacked by caries, exhibits first all the phenomena known to be present in the early stages of inflammation of bone. The protoplasmic cement corpuscles, as well as the basis-substance, after its decalcification and liquefaction, produce indifferent or inflammatory elements.

4. The indifferent elements originating through the carious process from enamel, dentine, and cement do not proceed in new formation of living matter, but become disintegrated and transformed into a mass crowded with micrococci and leptothrix.

5. "Caries of a living tooth, therefore, is an inflammatory process, which beginning as a chemical process in turn reduces the tissues of the tooth into embryonic or medullary elements, evidently the same as during the development of the tooth have shared in its formation; and its development and intensity are in direct proportion to the amount of living matter which they contain, as compared with other tissues.

6. "The medallary elements, owing to want of nutrition and to continuous irritation, become necrosed, and the seat of a lively new growth of organisms common to all decomposing organic malerial.

7. "Micrococci and leptothrix by no means produce caries; they do not penetrate the cavities in the basis-substance of the tissues of the tooth, but appear only as secondary formations, owing to the decay of the medullary elements.

8. "In pulpless teeth caries is a chemical process, assisted only by the decomposition of the glue-giving basis-substance of dentine and cement."

As an illustration of the principles upon which the author based his method of practice the following ten articles are given, which he says: "Ought to guide all operators in the filling of teeth."

1. "Gold, *properly used*, is the *best* known material for the permanent preservation of the teeth.

2. "With restoration of contour so complete as to keep the margins of enamel free from contact with the tooth adjoining, extention of decay is prevented.

3. "Failure in operations is mainly due to the gold not being packed closely against the dentine and enamel at every part, allowing fluids to enter at such parts and further decay to take place. The failure of a filling, therefore, is mainly due to the *incompatibility* of the operator with his work.

4. "A cavity that can be satisfactorily filled with anything is worth filling with gold. The contour of any tooth can be restored with gold if the operator has the ability to properly apply the rubber-dam and perform the operation.

5. "Skillful operators first see that the parts are in healthy condition, and then so perform operations with gold as to prevent further decay, or they fill with oxychloride of zinc to avoid shock from changes of temperature and cover with gold.

6. "A filling-*material* may be the *best* that is known for the tooth *and yet leak badly*, because of defective manipulation; but to save the tooth that best material, gold, must be so inserted as to prevent leakage.

7. "Gutta-percha, *properly used*, is a *good* filling-material, but it serves a temporary purpose only, except where there is no friction from mastication, from the free use of brush and powder, or from floss-silk, when it may prevent decay for several years.

8. "A *good* gutta-percha filling, *in its proper place* is better than a *poor* gold one, and better than any other material inserted in a careless and imperfect manner.

9. "The *excellence* of amalgam, *per se*, consists only in enabling an operator to fill a cavity with it where he might otherwise resort to extraction. [Amalgam shrinks and fluids penetrate between it and the enamel, which becomes fractured little by little, oxidation takes place, and while slightly retarding decay, the oxide discolors tissue, especially the dentine in the teeth of young persons, and the filling presents an unsightly appearance.]

10. "The use of plastic filling-material does not tend to the exercise of that care and development of that skill which are necessary for the successful practice of that dentistry which has for its standard of excellence ability to make *good gold* fillings; an operator with such ability can not only perform operations with gold so as to save teeth, but he can insert any other material better than one who has not the ability to make gold fillings."

As examples of statements to which exceptions may be taken, we quote from the chapter on "Deciduous Teeth-Prevention of Irregularity and Decay:" "In most cases, however, they should be extracted when devitalization occurs, and particularly when abscess has appeared, for the reason that solution and absorption of the tissues of the roots of these teeth (as the permanent advance and press upon them) does not normally take place after the death of the pulp, and absorption is necssary that mal-position of the permanent teeth may be prevented." Again, on page 60 in reference to the application of the rubber dam: "The rubber dam ought to be applied in every case, and it can be used in all cases so as to exclude moisture, provided the operator has the ability to apply it successfully." We will not deny that it can be done "*provided*" etc., but we think most practitioners are frequently meeting with cases where to apply it would be at the expense of so much inconvenience and suffering on the part of the patient, to say nothing of the fearful strain upon the "ability" of the "operator," that its use is, to say the lerst, unwarranted.

In the chapter on "Preparation of Filling Materials" we read: "The abuse not the use of cohesive gold has led to its condemnation, and they alone condemn it who have not prepared and manipulated it properly and successfully. Foil should always be prepared in the manner stated, and used in the form illustrated, and all gold ought to be cohesive, particularly when a mallet is used, so that the particles or pieces may surely and permanently remain together."

Soft or non-cohesive foil, with which so much beautiful and satisfactory work is being done, has no standing in the volume under consideration. But, while many assertions and descriptions of methods are arbitrary, the reader should not forget the words of the prefece that "they must necessarily be the methods practiced by the author."

One chapter is devoted to a history, description, and directions for working the Electro Magnetic mallet, and when we remember the authors love for this particular instrument, we are not surprised to find it very full and complete.

A chapter each, is devoted to "Placing Crowns on Roots of Teeth;" and Attaching Crowns to Teeth Where Roots are Missing in which accounts are given of some of the authors elaborate operations in that direction.

While the book contains little but what has already been published through the pages of the *Dental Cosmos*, yet as a whole, in book form, it is well worthy a place in the library of every dentist.

The neat and attractive appearance of the work reflects much credit upon the enterprising firm of Patterson & White, from whose press it comes.

Mr. F. Stolba proposes to substitute graphite for sand in the ordinary laboratory bath. Graphite does not scratch glass vessels and is much more easily heated.

In the June No. of *Items of Interest*, an individual who signs himself "Kansan" takes exceptions to an article by Dr. Faught, entitled "The Business Qualifications of Professional Men," (and which appeared in the March No. of The Dental Practitioner,) in language so unbecoming a gentleman that we are surprised the editor should give it room anywhere except in his waste basket.

We do not hold ourself responsible for the opinions entertained by any contributor to The Dental Practitioner, conceding to all alike the privilege of expressing their opinions when clothed in language fit for publication. But we will *not* be guilty of soiling its pages with anything so devoid of decency as this man from Kansas writes, and, at present, we know of no journal except the *Items of Interest* that would.

BE TOLERANT.

In perusing dental literature as we find it in the journals of the period, one is astonished at the lack of respect often shown to one who expresses an honest opinion on any subject connected with dental practice. Instead of carefully weighing statements upon disputed points, and giving them careful consideration, they are, without argument and investigation, pronounced incorrect, according as the critics' former opinion—or oftener, prejudice—leads. Especially if opinions are published that are at variance with long accustomed practice, do we find this intolerance manifested.

No sooner does an investigator publish the result of long and close study, than he is met with somebody's saying "It is not so;" and his objector will not even take the trouble to state his reasons, satisfied to denominate all his of opponent's logic as "meaningless rhapsodies' or "senseless declarations," and then proceed to state his own side of the case, to be met with his own weapons when the first speaker gains the ear of the public.

Antagonism in science will often be the surest means of reaching the truth, but it must be an antagonism dignified with argument, that gives reasons for its statements, and allows due weight to the opposition, not an ignorant intolerance that decries everything and everybody if they oppose preconceived notions. The dental writer or critic should bear in mind that an intolerant person is generally either ignorant or ill-bred, and always give deference to statements that are the result of thought, labor, and experience. In each case where there is a difference of opinion in dental practice, it is very possible that seemingly incontrovertible reasons have lead the disputants to their different opinions, and so we are led to see that many circumstances in one case may give color to a statement, that are wanting when an attempt to prove that statement is made in other hands.

It is impossible, while every man's ability and cultivation is different from that of his neighbor—none identical—that opposite statements will not be made upon an infinite variety of subjects; and so we plead for tolerance, and believe that as a rule, the man whose ability and education ranks high, is the man who gives civil answer to those differing in opinion with him.—*Editorial in Missouri Dental Journal.*

To Refine Sweepings or Dirt Containing Gold and Silver.—Take 8 ounces of the dirt, which has been washed and burnt, add salt, 4 ounces; pearlash, 4 ounces; red tartar, 1 ounce; saltpetre, ½ ounce. Mix thoroughly in a morter, melt in a crucible, and dissolve out the precious metals from the bottom.—(Calvert).

TREATMENT OF FRACTURED JAW.

BY D. GENESE, D. D. S.

Having been greatly troubled in properly articulating a compound fracture of the inferior maxilla, I devised the following plan, which resulted in a success. I therefore send you my *modus operandi*, hoping it may be of benefit to the members of the profession who meet with the same difficulty.

The most important consideration is a perfect model of the fracture; this is obtained by the following process:

Place the parts together and secure the joints of the fracture by ligatures if possible, then firmly close the jaws and secure in place by a broad bandage, covering the mental process to the angle of the jaw, fastening it firmly to the top of the head, make a bag of coarse linen three inches wide, soap the wrong side and fasten one end, fill two-thirds with plaster and take the impression of the entire lower maxilla; when this is dry and hard the bandage may be removed, the plaster impression held under the jaw firmly, and a perfect impression of the lower teeth and alveolar border taken at once, and in its natural position. I then dry my model, and take a die and counter in metal, making a tin cup the desired thickness and strength, forming a half round cushion or edge of wax on the tin plate that will be occupied on the finished plate by a rim of soft rubber, preventing abrasion of the tissues. This splint has the advantage of holding the parts firmly and accurately in their natural position, retaining the articulation. Also giving the patient a moderately free use of his upper teeth, the external plaster splint keeping the fractured parts firmly fixed in position with the internal one so that no motion can occur, even if the bandages are removed. To secure them, the usual skull cap with four buckles and straps is used. In forming the rubber splint any space necessary may be left for the escape of the discharge by building the model up with plaster. The whole should be vulcanized at a low temperature for three or four hours to insure perfect vulcanization; and avoiding absorption of the secretions while the soft rim must be formed in one piece to prevent its being pressed into the hard rubber part and weakening the plates.

By this means very little disfigurement takes place around the fracture, as the contour is firmly maintained until complete union takes place. The patient after a while is able to adjust it without danger of a displacement, and less time is occupied in effecting a cure.—*American Journal of Dental Science.*

HYGIENIC MANAGEMENT OF CONSUMPTION.—In the report of the proceedings of the Medical Society of the State of Pennsylvania we find the following:

Dr. J. M. Anders, of Philadelphia, spoke very highly of the usefulness of house-plants and flowers in the sick-room, and as having positive therapeutic value in consumption. His researches had established the following facts:

1. That plants exhale aqueous vapor with great rapidity, at a rate of one and a quarter ounce by weight per square foot of leaf surface for twelve diurnal hours.

2. Through this process of transpiration they have the power to increase the humidity of the atmosphere of an apartment to any degree desired, by simply regulating the amount of leaf surface.

3. That the vapor emitted by plants is charged with some organic matter in passing through the plant, which may have peculiar sanitary value.

4. Recent experiments by the writer render it highly probable that flowering plants have the power of generating and emitting ozone.

A number of cases tending to show the value of plants as preventive and remedial agents in phthisis, are referred to, and other suggestive facts were communicated which render it strongly probable that the atmosphere of a room may be decidedly changed for the better for consumptives by the cultivation of house plants with extensive leaf surface.

HE HAD THE GOUT.

Incidents of a highly ludicrous nature frequently occur in the examination of patients both by doctors and by students. A professor on one occasion was lecturing to his class on the means of diagnosing disease by the external appearance, face, and other details of the patient. Expressing his belief that a patient before the class afforded an example of the practice in question, the Professor said to the individual:

"Ah! you are troubled with gout?"

"No, sir," said the man; "I've never had any such complaint."

"But," said the Professor, "your father must have had gout."

"No, sir," was the reply, "nor my mother, either."

"Ah, very strange," said the Professor to his class. "I am still convinced that this man is a gouty subject. I see that his front teeth show all the characters which we are accustomed to note in gout."

"Front teeth?" ejaculated the patient.

"Yes," retorted the professor; "I'm convinced that my diagnosis is correct. You have gout, sir!"

"Well, that beats everything," replied the man. "It's the first time, sir, I've heard of false teeth having the gout! I've had this set for the past ten years."

The effect of this sally on the part of the patient upon the inquisitorial Professor and his students may be better imagined than described.—*Local Paper.*

CONDITIONS INFLUENCING THE AMYLOLYTIC ACTION OF SALIVA.—Working with saliva previously carefully neutralized,—a precaution which has not been always taken by previous observers, but which is clearly necessary on account of the variable acidity or alkalinity of different specimens of saliva,—Langley and Eves arrive at the following conclusions: 1°. Neutralized saliva converts starch into sugar much more actively than unneutralized. 2°. .0015 per cent. H Cl distinctly diminishes the amylolytic action of ptyalin. 3°. Sodium carbonate also diminishes the activity of previously neutralized saliva, and more the more of the alkaline salt is present. 4°. .005 per cent. H Cl has a very obvious destructive influence on ptyalin. 5°. Sodium carbonate has a very slight destructive power, but greatly retards the action of the salivary ferment. 6°. Neutralized saliva converts starch into sugar more quickly in the presence of neutral peptone than in the presence of peptone plus dilute H Cl. 7°. The larger the percentage of acid in proportion to the peptone,—that is to say, the more acid unemployed in combining with the peptone,—the more marked the injurious influence of the acid. Even before the peptone is completely saturated with acid, the injurious effect, due apparently to the presence of acid-peptone, becomes obvious. 8°. Ptyalin is destroyed by acid combined with peptone much more slowly than by the same amount of acid without the peptone. 9°. When peptone is present, the deleterious influence of sodium carbonate is greatly diminished. Not merely peptone, however, but myosin, alkali albumen, and acid albumen act in the same protective manner. The authors conclude that all ptyalin is destroyed in the stomach very soon after that first brief stage of gastric digestion in which no free acid is present. —H. N. M., *in Science.*

SALIVARY ALKALOIDS.—Gautier found in normal saliva an alkaloid-like, non-nitrogenous substance, forming a crystallizable compound with chloride of gold and platinum. In its physiological actions this alkaloid resembled the post-mortem alkaloids (*ptomaines*); injected into animals, it acted like snake-poison, especially on birds. The directions given for preparing the alkaloid, and information as to the quantity of it necessary to produce lethal results, have, however, been very deficient. Budwin, desiring to obtain further information on the latter point, arrives at results which throw doubt on the whole matter. He finds that fresh extract of 100 cub. cm. of human saliva subcutaneously injected does no harm to frogs, moles or pigeons.—(*Arch. path. anat. phys.*, xci., 1883, 190.) H. N. M. in *Science.*

EAR-ACHE IN CHILDREN.—Dr. Sam'l Sexton contributes an article on this subject to the *Medical Record,* May 5, 1883, in which he deprecates routine treatment or injections until we have found out the cause of the ache by careful examination, for in a very large number of the ear-aches in childhood the causes are to be sought elsewhere than in the hearing organ itself, and they will be found to depend, for the most part, on nervous sympathy; the most prominent are dentition, dental caries, and clods in the head. Thus nervous impulses propagated from regions remote from the ear may give rise to pains in the ear—neuralgic otalgia—without perceptible hyperæmia; or the intensity of the congestion arising in a part so richly supplied with blood-vessels may manifest itself as an acute aural catarrh.—*Medical and Surgical Reporter.*

Mr. Mellard Reade, of Liverpool England, estimates the age of the world is not less than six hundred million years.

Office of W. E. Driscoll, Dentist.

Bedford, Ind., May 21st, 1883.

Mr. G. Sibley—Dear sir: I read your "Caution" in the May No. of the *Dental Practitioner* with interest, as it coincides with my experience in nearly every particular. I have seen attempts to perpetrate most of the tricks you mention, hence I know that your "Caution" is justified. * * * * *

Respectfully,

W. E. Driscoll.

Note.—The above was embodied in a friendly note, and was not intended for publication, but as we have the Doctor's consent, now give it to the public in corroboration of our article in May No. of the Dental Practitioner headed "Caution."

IMPROVED

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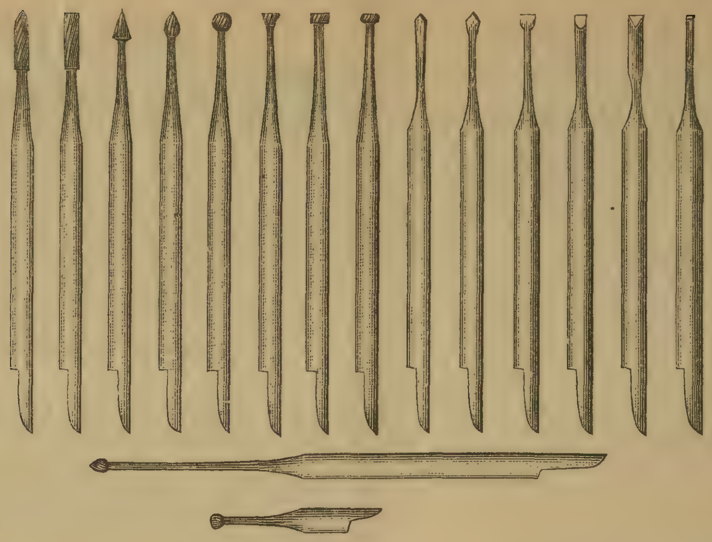

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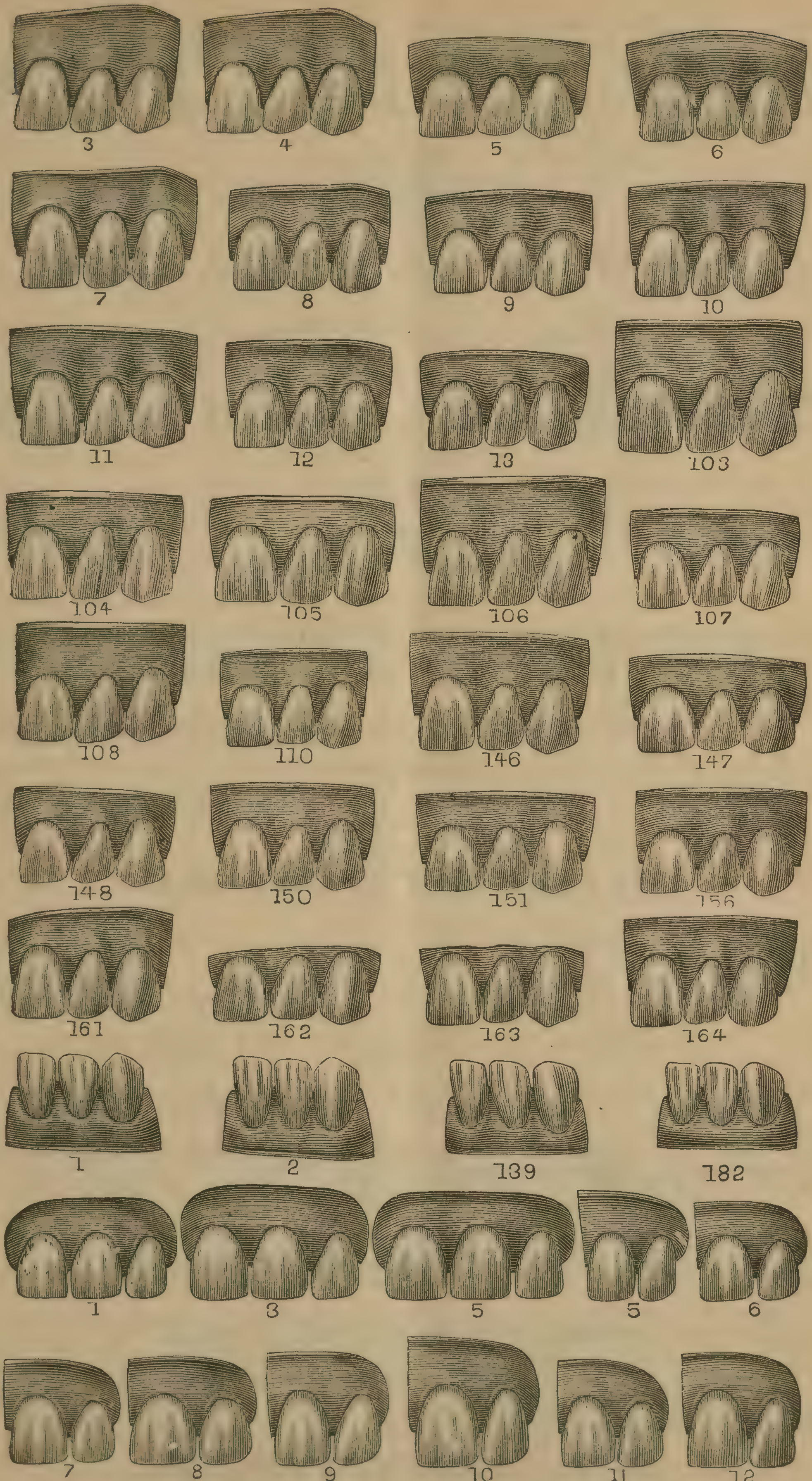

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1883

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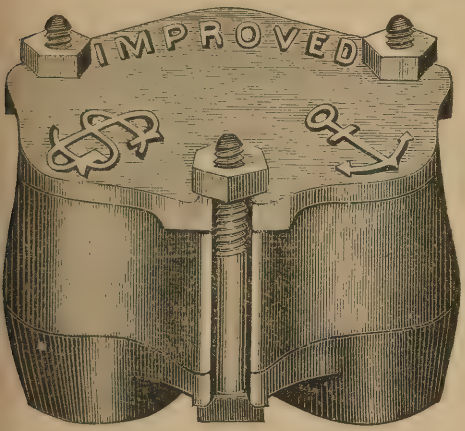

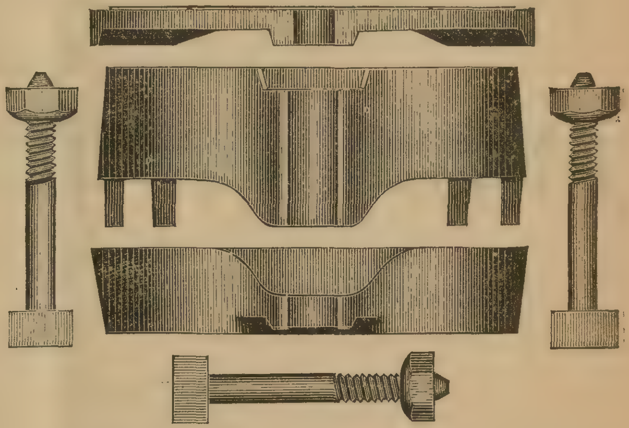

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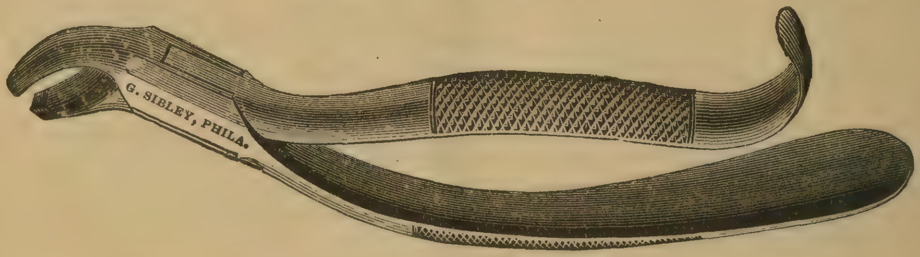
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THE Dental Practitioner.

A MONTHLY JOURNAL.

Published by GIDEON SIBLEY. PHILADELPHIA. Edited by CHAS. E. PIKE, D.D.S.

Office of Publication, 13th and Filbert Streets, Philadelphia, Pa.

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BY S. H. GUILFORD, A.M., D.D.S.,

Professor of Operative and Prosthetic Dentistry in the Philadelphia Dental College.

The relation between a dentist and his patient involves a double obligation, which, though tacit, is just as binding as though legally drawn, signed and witnessed.

On the one hand, it requires that the patient shall submit to such treatment as the circumstances of the case require, and shall afterward properly remunerate the dentist for his services. On the other hand, it requires the dentist to give to his patient his best, most thorough and most conscientious services. If the patient should not be willing to perform his part of the contract, we would either not receive or not continue him as a patient. So, too, if we do not fulfil our obligation in the premises, the patient should and would leave us and seek the services of one more skillful or more conscientious. Patients come to us because they believe that we are possessed of skill of a high order, and will serve them in a satisfactory manner. If they did not have confidence in us, they would not seek our services. Having shown their confidence by preferring us, it behooves us not to violate that confidence, but to serve them in a way that shall tend to strengthen and increase it. To do this, all our operations for them must be well done and satisfactory. We must, in the first place, be possessed of the requisite amount of knowledge and skill to enable us to serve them well, and after that we must use that skill, guided by judgment and directed by knowledge, to bring about the satisfactory results that they expect.

Thoroughness should be a cardinal principle with every dentist. What is not thoroughly done, cannot be well done. No matter what amount of knowledge and skill is brought into the case, lack of thoroughness will ruin the result. Knowledge is most important and so is skill, for without either we cannot be entirely successful, but with them both we still need thoroughness. Dental work lacking thoroughness, is like the play of Hamlet with Hamlet left out.

Few occupations call for the same amount of pains-taking care that ours does, and nowhere, scarcely, is failure attended with as bad results. In the outside world a piece of work improperly done involves at most, in its re-doing, only the loss of money; but work upon the dental organism involves the expenditure of time, money and nerve force, so that when it has to be done over it becomes a serious matter. In view of this it becomes our duty to do what we have to do as thoroughly as we can.

The question of charges or expense does not enter into the case at all, for if we served the patient gratuitously he would certainly expect the work to be well done. Neither can lack of time be urged as an excuse for want of thoroughness, for we can decline a case if we choose; but, having once accepted it, we are bound to do our best by it. The amount of careless and indifferent work that one is constantly obliged to see is simply amazing, and is really hard to account for.

We, of all others, cannot afford to be careless in our work, for, with occasional failures staring us in the face when we have put forth our best efforts, what would become of us or our patients were we to do less than our best? Our work calls for the strongest knowledge, the highest skill and the most exact care, and we cannot overlook the matter. Success is what we all strive after, and real, true success cannot be obtained in any department of life without being thorough in what we do. Our profession is no exception. The successful men are the thorough men. Men who throw the weight of their knowledge, and skill and thoroughness into each operation they perform, be it ever so trivial, are the ones who now, as in times past, lead in the professional race. Men like Varney, Webb and others would never have gained the reputation their work gave them had it not been for the thoroughness and conscientiousness with which they performed every operation they undertook. Had they been satisfied with the "well enough" idea, they would probably have never been heard of. Let not the young men starting out in professional life commit the too common error of confounding *apparent* with *real* success. They are widely different. The one "goes up like a rocket but comes down like a stick," and is heard of no more. The other builds more slowly but more surely, and leaves behind an enduring monument to help and encourage those who come after. The quiet but conscientious worker, struggling to build up a practice that will support him, is often discouraged and disheartened by the apparent success of some worthless fellow who, by speaking well of himself in public print, and by dishonest practices, quickly succeeds in filling his office with patients and his pockets with money. But let him not be discouraged; honesty has never yet been distanced by dishonesty, and competency has always come out ahead of incompetency in the long run. Apparent success, brought about by improper practices, is short-lived and should not deceive. It may allure, but, like the "Will-o'-the wisp," if followed, will as certainly end in disappointment and disaster. There are many elements that go to make up what is known as success, but of them all, none is more important than the single one, *thoroughness*.

ABSORPTION OF MERCURY FROM RUBBER PLATES.

In No. 5 of the *Dental Practitioner* is a criticism by W. E. Driscoll, on my article on rubber plates, contained in the fourth number of the journal; but the language is so indefinite, or my comprehension so dull, I fail to understand fully the meaning of his first question—viz.: "I wish to ask him, or any one who can answer, how can you demonstrate the truth of the assertion that mercury is absorbed from rubber plates?"

The doctor either means the coloring matter in the dental gum we use is so pure that it is entirely destitute of mercury, or that the mucus membrane refused to absorb it if it be there. I suppose, from the context, he means the former.

Now, it is very easy for the doctor to demonstrate that there is free mercury in vermillion, by taking some of the very best "Chinese" and rubbing it on a bright copper plate; he will find enough mercury there to satisfy him on that point. Or he may ignite a piece of vulcanized rubber, and catch the smoke on a piece of bright copper, and again find the mercury.

I do not believe that mercury (*per se*) absorbed into the system through the mucus membrane does the gums any harm; but the trouble comes from the mercuric sulphide being acted on or altered in some way by the acids or alkalies it meets with in the mouth, and held there in contact with the gum by the plate, causing the irritation and consequent swelling we sometimes see.

In the next paragraph of his criticism, he says: "I advise vulcanizing rubber at 340°." I begin to think that the doctor reads very quickly—with a sort of a hop, skip and a jump. If he will take a little more time and read my article all through, he will find that I stated that my method was to divide the time of vulcanizing into two portions: the first portion at a low heat, to cure it and to allow time for the sulphurous gases to escape, thus preventing a porous plate; the second heat for a shorter time, to harden the rubber. I have vulcanized in this way ever since I was the agent for the Old Vulcanite Company—some twenty or more years ago—and during all that time have seen no good reason to alter my plan.

As the third paragraph of his criticism admits the possibility of the mercuric sulphide injuring the mouth, it requires no remarks from me.

In my own experience I am able to recall but two cases where rubber caused any serious trouble. One, in which I was called in consultation, the mucus membrane of the patient's mouth was considerably inflamed, with numerous small purulent ulcers, discharging a small amount of white pus on pressure. The treatment consisted of a chlorate of potash mouth wash and an abandonment of the rubber plate; with substitution of a gold one, there was no trouble afterwards. The other case was in my own practice—a young lady of sanguo-lymphatic temperament, who by a fall had lost a central incisor in the upper jaw. The dentist she employed to replace it inserted a rubber plate. When she called on me the gum was very much inflamed, the swelling covering nearly half of the length of the teeth. The slightest touch produced bleeding. She consented to leave the plate with me for one week. At the end of that time I took an impression and made a gold plate, which she wore until the swelling entirely subsided, when a new gold case was made, which she is now wearing with entire comfort.

W. R. HALL.

THE LANCET IN DENTITION.

BY THOS. S. SOZINSKEY, M.D., PH. D., OF PHILADELPHIA.

It is noted by Southey, in his common place book, "The Doctor," that "Progers, who had been about the person of Charles the Second, died at ninety-six, in cutting his teeth. He had four, and many others were coming, which so inflamed his gums that it proved fatal." Poor old Progers! "Cutting of the teeth" is, rightly or wrongly, credited popularly with the destruction of many lives, and it would seem from this case that it is liable to be accused of being at work even in the terminal stage of existence. In the nursery it has always, perhaps, been regarded as a very serious matter. Nevertheless, this common belief, like many another, may not be well founded. Cumulative tradition has possibly served to at least excessively emphasize the balefulness of the process. It may, however, be taken for granted, I believe, that the amount of suffering experienced by children in general while getting their primary teeth is very considerable. It causes decided uneasiness in almost all, and decided danger in some. If it rarely or never destroys life directly, it certainly not unfrequently does indirectly. But I am not sure that it is entirely wrong to give it as the actual cause of death in not a few cases. This is at any rate done. In Philadelphia, about thirty deaths are attributed to it, on the average, yearly, in the bills of mortality. During the census year ending June 30th, 1870, there were three thousand two hundred and forty-seven deaths attributed to it in the United States. There is assuredly some ground for the prevailing belief that dentition is the direct or indirect source from which flow many of the ills and a large share of the mortality of babies.

It would appear, however, that there are some physicians who seriously regard the coming of the teeth as an extremely innocent matter, being, as they say, a purely physiological process. I would advise such that it is assuming a great deal to take it for granted that dentition is in all cases a purely physiological process. Perhaps in no child is it absolutely physiological; it is at best only approximately physiological. In a recent address, Dr. B. W. Richardson went so far as to declare that he "had never seen a healthy child," never one "that had not in it either some actual or latent constitutional disease." At any rate, there is good reason for believing that in a large proportion of children, especially in large cities, dentition is of decidedly pathological import. As is true of many other troubles, it generally tends to be more marked in proportion to the degree of unhealthiness of the child. And let it be borne in mind that the sensibility of all infants is great, and of some sickly ones such that even a trifling irritation may be followed by serious constitutional and other effects.

But it is not my purpose to speak of the subject of dentition. This has been done very well in a lecture published in this journal recently. It may be well, however, to say, in the words of John Hunter in his admirable treatise on the natural history and diseases of the teeth, "the symptoms are so various in different children, and often in the same child, that it is difficult to conceive them to be from the same origin, and the varieties are such as seem to be beyond our knowledge."

Now, when to the discerning senses of the observing, sensible physician, a child is suffering severely from the eruption of one or more teeth, relief should, of course, be procured as soon as possible How is this end to be attained? The advice given by many amounts to little more than to use a soothing syrup—a la Winslow—of some sort. Meeting the various indications is, in truth, in numerous cases, far from being an easy matter. Such measures as serve to favor the general health are particularly indicated in every case. Careful regulation of the diet, daily bathing and a fair amount of exercise, especially in the open air, are among the items of great significance. Make the process as little pathological as possible by making the condition of the child as physiological as possible. Anodynes, antacids, febrifuges and other remedies, including local applications, may or may not be called for. But I believe the remedy most imperiously called for, in at least bad cases, lies in the use of the lancet.

Of the use of the lancet in dentition it is curious to observe how different are the opinions entertained. Some do not hesitate to say that it is of no value. Thus, in a recent widely circulated work on the diseases of children, by Dr. Henoch, a Berlin practitioner of seemingly large experience, it is said: "It is now generally held that every attempt to facilitate the eruption of the teeth, and thus remove the symptoms due to difficult dentition, is absolutely useless. I have in earlier years performed scarification with sufficient frequency to convince myself of its entire inutility; and it even appears to me that the cicatrix formed may increase the difficulties connected with the penetration of the teeth." Here is what Dr. J. Lewis

Smith says on the subject, in his work on the diseases of infancy and childhood: "The gum-lancet is now much less frequently employed than formerly. It is used more by the ignorant practitioner who is deficient in the ability to diagnosticate obscure diseases, than by one of intelligence, who can discern more clearly the true pathological state. Its use is more frequent in some countries, as in England, under the teaching of great names, than in others, as in France, where the highest authorities, as Rilliet and Barthez, discountenance it. . . . I know no accidents of dentition which require prompt scarification, except suppurative inflammation of the gums, convulsions, and paralysis. In other cases the operation may be safely postponed till other measures have been employed." In Drs. Meigs' and Pepper's treaties on the diseases of children it is said: "Lancing of the gums is undoubtedly a most important point in this (laryngismus stridulus) and other diseases of childhood connected with dentition. We have long been convinced, however, from personal observation, that a resort to this operation merely because the child is passing through the period of dentition is at least useless. We have never found it to do any good unless the teeth are near enough to the surface to produce manifest swelling, attended with heat and soreness of the gums. So long as the gum is hard, insensible, not turgid, and of its natural color, and the mouth not hot, cutting has done no good." That wise old master of the healing art, John Hunter, after speaking of symptoms arising from dentition, says: "So far as my experience has taught me, to cut the gum down to the teeth appears to be the only method of cure."

Truly the authors quoted from differ sufficiently as to the value of the lancet in dentition. It is worth while to dwell a little on what they say:

Dr. Henoch speaks very rashly, to say the least, in declaring that "it is generally held that every attempt to facilitate the eruption of the teeth is absolutely useless." The idea was not formed from an extensive acquaintance with the literature of the subject. Again, the statement of the doctor as to his experience with the use of the lancet may well lead one to infer that he has had hardly any experience with it. He is like those who, although having no knowledge of the use of the lancet in general medicine, yet unhesitatingly venture to condemn it. What he has to say about "the cicatrix" may rightly produce the impression that he has not made himself master of the subject. If the lancing is properly done, there need be no cicatrix; and if there be one it will not serve to retard the "penetration" of the tooth. As Hunter long ago said, at the point of cicatrix the gum offers the least resistance to the appearance of the tooth.

Dr. Smith is doubtless right in holding that ignorant practitioners are very apt to use the lancet when not required, and in his intimation that the use of it is largely a matter of fashion. But I am also quite sure that too many practitioners who are usually regarded as intelligent do not use it as often as they should. His statement that he "knows no accidents of dentition which require prompt scarification, except suppurative inflammation of the gums, convulsions and paralysis," is a trifle extraordinary. What of cases of, say, laryngismus stridulus and of cholera infantum, in which dentition bears largely a causative relation? Except in the diseases he mentions, the doctor would postpone the operation "till other measures have been employed." It scarcely follows from this that he is acquainted with the cardinal principle of sound medical practice. In treating of the same subject Hunter correctly remarks: "It would be better at once to remove the cause, than to be attempting from time to time to remove or palliate the effect." Wasting time trying to palliate effects, while the cause is allowed to act, lets many a little innocent go unnecessarily and speedily into the grave.

Drs. Meigs and Pepper "have long been convinced, from personal observation, that a resort to the operation merely because the child is passing through the period of dentition, is at least useless." It is rather strange that they were ever otherwise than "convinced." No sensible physician cuts a child's gums indiscriminately. Resorting to the lancet when there is no evident need for it, no matter how the child is affected, is, as Dr. West fitly says, "barbarous empiricism." The idea that it is the approach of the teeth "near to the surface" which produces the troubles which are met with in dentition is not of necessity a truth. At least the main source of trouble in the appearance of a tooth is not at the surface; it is at the base. The backward pressure on the sensitive nerves and other parts gives rise largely to the pain and irritation about the gum. This backward pressure may set up trouble a considerable time before the tooth nears the surface, the tension then being almost or quite as great as later. In fact it often, or perhaps I should say generally, happens that there is a spell of trouble some time before the tooth is about to make its appearance. In some it is very marked and it may be repeated. The capsule becomes distended and the surrounding parts hyperæmic and painful, and there is a free flow of saliva. In any case where there is evidently decided irritation about the gum the lancet should be used. It should be used even if for no other reason than to relieve the child of local pain, of toothache, an affliction which, as many know, and Burns told in expressive poetic phrase, is something awful enough in itself, a pain which at its worst Bacon had reason in believing to be "one of the sharpest of pains." There need be no hesitancy in using the lancet repeatedly if the gum is at any point tense and angry looking. Says Hunter: "I have performed the operation above ten times upon the same tooth, where the disease had recurred so often, and every time with the absolute removal of the symptoms."

That the lancet will afford relief in the presence of very marked symptoms every one surely is aware who knows how to use it. It is an instrument by which much may be done to lessen suffering, cure disease and save life. Here is a delicate child, somewhat over a year old, languid, pale, the victim of one or two convulsions, with contracted brows, a temperature of from 101° to 102°, a tendency to diarrhœa, and a slight bronchitic cough. I lance his cutting tooth, and within a few hours he is almost entirely well. I have done the thing so often in his case that I know precisely what the result will be. This lymphatic child of fifteen months has a developing croup; the hurried breathing, the noise in the throat and all the other symptoms are becoming decided. I lance his appearing eye teeth and he begins immediately to get well. There is a strong looking boy, nearly two years old, with a temperature of 103°, and a marked cold on his chest. I prescribe appropriate remedies, but at the end of two days he is no better. I lance a pair of coming molars, and next day there is no fever hardly, and the cough speedily vanishes. That poorly cared for child, who has about completed her first year, is evidently, from the high fever, (103.5°) nausea and tendency to diarrhœa, drifting into the fatal grasp of cholera infantum, the midsummer heat favoring the development of that serious infantile disease. I look at her mouth and find that the gums over both the eye and the stomach teeth are tense and angry looking. I lance these points, and very simple measures restore the patient, within forty-eight hours, to her usual state of health. But I need not give an extended recital of cases. I am of the opinion that early, and, if need be, repeated lancing, would save many who should otherwise perish from convulsions, bronchitis, cholera infantum and other diseases. Especially in spent children, in the warmer part of the year, should there be no delay. Statistics of the census year ending June 30th, 1870, show that there are more deaths attributable to dentition in the third quarter of the year than in the two preceding ones together, and many more than in the first and fourth together. The Philadelphia bills of mortality present a very similar showing.

In order that lancing the gums may do as much good as possible it must be done well, but, of course, not butcherly. A plain incision with a very sharp lancet is not enough; it will generally do only a little good. This is what is not uncommonly done. Let there be several more or less irregular incisions made, with a somewhat dull lancet, and the hoped for result will very certainly follow. In bad cases the gum should be very thoroughly scarified, so thoroughly that there will be little or no likelihood of the parts uniting over the tooth. And it is proper to extend the incisions well to the sides of the coming tooth. This may be called for after the tooth has partly appeared. Whatever bleeding occurs will be beneficial; it will serve to relieve the hyperæmia and pain; in fact, in not a few cases it is the bleeding that is principally called for. Local depletion affords immediate relief. It will not be harmfully profuse, likely, in any case. Says Hunter: "I never saw a case where the bleeding proved either inconvenient or dangerous."

What harm may result from lancing the gums, under any but very extraordinary circumstances, it would be hard to state. I do not feel sure that it can do any, and in this belief I am fortified by the opinions of perhaps all dentists and others who have carefully studied the matter. It may cause temporary pain. Still, this is not very marked. Many a child will open its mouth and have several teeth thoroughly lanced without giving a whimper. As for the tenderness of the gum, which there may be for a day or two, from thorough lancing, it is comparatively a small matter. The idea that lancing will retard the development of the tooth has, I believe, no just foundation. It would appear to be based on the erroneous notion that when lancing is practiced the tooth should immediately appear. It is probable that in no case is there any more than an apparent delay. As already stated, the irritation about the gum which calls for the use of the lancet may arise weeks before the tooth approaches the surface. A tooth does not receive its nourishment from the structures above or about its crown. The cicatrix and hemorrhage I have already spoken of at sufficient length. In all proper cases the lancet may, then, be used, with confidence that it is a markedly non-injurious, as well as an almost infallible means of relief.—*Medical and Surgical Reporter.*

THE TEETH FROM A MEDICO-LEGAL ASPECT.

From a Medico-legal aspect the teeth have not received the attention to which their importance, in many particulars, entitles them. It is, indeed, astonishing to find how seldom they are referred to in standard works on Forensic Medicine; even that much appreciated and consulted work of Casper's does not, so far as we can gather, allude to them. Yet that they have an importance in such matters is evident from the information they have furnished from time to time.

One of the earliest appeals to this portion of the human frame was as a test of age. About the year 1836, our Legislature was engaged in amending an Act which was designed to limit the age of children employed in factories, and as physical development was known to be a very uncertain criterion of age, some better test, to prevent the evasion of the Act, was anxiously sought for.

To a member of our own body, Mr. E. Saunders, belongs the credit of having first shown that, within certain periods of life, the teeth may be relied on as affording evidence of age. This gentleman undertook the collection of a large number of statistics derived from the inspection of the mouths of children.

The data thus obtained by Mr. Saunders, and published as a monograph in 1837, entitled, "The Teeth, a test of Age," were generally confirmed by the collection of the results of a very much larger number of examinations conducted by the present Mr. S. Cartwright. From the tables founded upon these observations the ages of persons varying from six to fourteen years can be pretty correctly ascertained.

But the teeth afford valuable evidence of age at other periods of life as well, though the fact has been much neglected. Thus whilst Casper gives some excellent data, embodied in tables, for ascertaining the age of the fœtus and newly-born child, these are derived from the development of the bones and organs other than the teeth, yet the researches of J. Tomes, Legros and Magitot, and others, in this direction, have added to our knowledge facts which would afford most valuable assistance in such investigations. Again, the periods occupied in the eruption of the temporary teeth are now, for the average, pretty well ascertained, whilst the later researches of Magitot enable us to fill up the gap between the completion of the first, and the commencement of the second dentition.

In another point of view the teeth may serve to afford evidence useful in Medico-legal investigation. For instance, there are the now well recognized syphilitic teeth, which may hereafter occupy no mean place in the decisions of divorce courts.

But the teeth doubtless are of more importance in the matter of identification than in any other, and it is surprising how little this line of inquiry has been pursued. In a few cases suggestions of their value under the above conditions have been offered. In one of the most important trials ever recorded, viz.: that of the impersonation of a supposed dead person, both counsel for plaintiff and defendant were advised that much valuable information could be obtained by an examination of the mouth; the former by the dentist who had attended the individual supposed to be dead, and who confidently stated that he could recognize the true man by his teeth, but that counsel, for good reasons, no doubt, declined such evidence. In the matter of the lamented Prince Imperial, whose life was sacrificed in Zululand, when a doubt was raised as to the identification of his remains, two eminent dentists who had operated upon his teeth offered to give, if necessary, information which would have been conclusive.

It was under this phase of the question that Mr. Turner, at the last meeting of the Odontological Society, exhibited to the members casts of both jaws, also the lower jaw itself, of the unfortunate victim of a presumed murder. The information afforded by the models and maxilla pointed to the age as being about fifteen. From the development of the third molars, Mr. Hutchinson suggested a rather later age; but the small amount of wear the teeth had undergone, in the opinion of Mr. Turner, Mr. C. S. Tomes and Mr. Coleman, led them to fix the age at between fourteen and sixteen. A singular circumstance was that the two lower second temporary molars were retained, their successors being just below them, and this might, under certain conditions, have led to an identification of the unfortunate being. Both Mr. Turner and Mr. C. S. Tomes strongly insisted on the greater value the teeth were able to afford in medico-legal questions than had hitherto been assigned to them.—*Journal of British Dental Association.*

"THE DANCE OF DEATH."

The immortal and matchless Burns tells us that

> "The De'il came fiddlin' through the town,
> An' danced awa' wi' the exciseman ;
> An' ilka wife cried omadhaun,
> We wish good luck wi' your prize, man."

And in order that the sources of amusement may be equalized to society, it would be well to have, not the De'il, but the law come fiddlin' through the country, to dance away with the quack Johns in the dental profession, who, without professional, or even lay knowledge, advertise dangerous operations performed painlessly, under the influence of "vitalized air," "laughing gas," "medicated ether," etc. The pilot and engineer on a steamboat undergo careful examinations by competent parties, before they are allowed to take the responsibility incident to their positions. Who would knowingly ride with an engineer ignorant of the nature of steam, and unfamiliar with the movements of an engine? Yet every day men, and especially women, allow parties wholly ignorant of the laws of life, without even slight knowledge of anatomy and physiology, ignorant, too, of the nature and action of anæsthetics, as well as of remedial agents and measures in cases of danger—they allow such as these, we say, to take them a voyage on the deep, narrow river that divides this world from the next, without the precaution of rafts or life-preservers in the shape of practical knowledge. These things ought not to be. Often we have heard the most popular dentists, with good medical, as well as dental educations, remark, each in his place, that if he should conclude to use anæsthetics in his practice, he would go to some one competent and experienced, and take a thorough course of instruction from him before presuming to engage in a practice involving such great responsibility. But

> "Fools rush in where angels fear to tread."

The following remarks, taken from the *Commercial Gazette*, of Cincinnati, are to the point, and worthy of attention. Their author, Prof. Wright, is high authority:

A LEGAL SAFEGUARD IN THE DANCE OF DEATH.

To the Editor of the Commercial Gazette:

It may not be known to all your readers that Ohio enacted the first law for the regulation of the practice of dental surgery, and that neighboring States, after spending some time in sneering at her, followed her example. Fifteen States now have "State Boards of Dental Examiners." There is, however, an evil of a very serious character not sufficiently under the control of the State Boards, and Ohio is again first to recognize it, or, rather, to make a real effort of *doing* something toward correcting it. The medical and dental professions have long been aware that many entirely unqualified and ignorant men are daily administering "laughing gas," "vitalized air," "ether," etc., for the extraction of teeth, and have wondered that fatal accidents have not oftener occurred in the dentist's chair. It is well known that many who "give gas" are entirely ignorant of the effects of the agent on the heart, the blood-vessels, the lungs, the brain, or the nerves of the patient; as, also, of even the names of restorative agents and means, should the patient refuse to wake up promptly. Many good people have gone directly from the dentist's chair to "mansions in the skies," without having left any "last words" to their friends. Thousands of others have hung by a hair over their graves, and, like Rogue Riderhood, have come back to life, not, however, to "have the law on it," but to laugh and cry a little hysterically, and then to write their names in a big book, as an evidence that they have escaped death. Hundreds of these have "never felt quite well" since. Every cultivated physician and dentist knows that death stands grinning at his side (as in Holbein's picture) when his patient's consciousness is passing away under the effects of any anæsthetic, and only the ignorant dentist can be reckless and perfectly fearless at such a time. The people have a right to demand that every man who proposes to use an anæsthetic should be able to furnish them with some evidence that he has given special study to the subject. The Mad River Valley Dental Society appointed a committee on the 22d of May, at their meeting in Dayton, to urge this matter on the attention of other dental societies of the State, on the people, and on the Legislature, with a view to the getting of a new law on the subject—a law which shall simply make it obligatory for any person who wishes to give anæsthetics, to satisfy by an examination, or by any other means, the State Board, of his special knowledge and qualification on this point. This will be a move in the right direction, and will no doubt be appreciated by the public and by the medical and dental professions in other States.

Respectfully yours,

C. M. WRIGHT.

If dentists generally would try to have the above remarks of Prof. Wright inserted in their local papers, great good would result in the way of educating the public on this important subject.—*Ohio State Journal of Dental Science.*

THE COMPOSITION AND EFFECTS OF CHLORAL HYDRATE.

Chloral was first prepared in 1832, when Liebig, the famous chemist, obtained it by acting with chlorine gas on absolute alcohol. Its name, which consists of the first syllables of the words chlorine and alcohol, is a convenient reminder of its composition. It is a heavy, oily, colorless liquid of a specific gravity considerably greater than that of water, but boiling at a somewhat lower temperature. Among its properties may be cited a greasy, bitter taste, and a pungent odor, which has an irritating effect on the eyes. Of more interest than chloral itself is chloral hydrate, a solid crystalline substance formed by the union of chloral with a certain proportion of water. This, when dissolved in water in varying proportions, constitutes a drug extensively used, and, as is well known to the student of medical literature, not unfrequently with disastrous results. For a long time, however, chloral hydrate was "a scientific curiosity" belonging to a series of compounds much studied by Stadeler and the distinguished French chemist, M. Dumas, who showed that in a presence of an alkali, such as soda or potash, chloral hydrate is broken up into formic acid and chloroform. This was the turning point of its career, as from the fact that it could be thus decomposed in a test-tube. Another chemist, Liebreich, was led to conjecture that a similar decomposition might be produced in the blood. Experiment confirmed his anticipation, chloroform being set free in the blood and producing effects analogous to those produced when the vapor of that drug is inhaled. He accordingly, in 1869, introduced the aqueous solution of chloral hydrate to the medical profession as an anæsthetic and hypnotic. Judiciously used, under the guidance of competent physicians, it has been found to be a valuable addition to the pharmacopœia, but used to excess—as it certainly was during a brief period of great popularity—it produces a number of bad effects, to which in the aggregate the term chloralisms is applied. Chloral hydrate is of special value as a soporific when opium is inadmissible, as in the case of children and in some fevers. In cases of tetanus it is valuable as a means of securing muscular relaxation, and Liebreich has shown that it produces effects in antagonism to those of strychnia. Cautiously used, it has been found serviceable in delirium tremens, rabies, acute mania, cholera, seasickness, cancer, chronic rheumatism and other diseases. The first effect of a dose of chloral hydrate is to congest the brain. Its subsequent effects vary with the individual, but, as a rule, a dose of 20 grains acts upon a healthy person as a mild sedative of the sensory nervous system, causing thirty or forty minutes after it has been taken a light normal sleep, followed by no ill consequences. Taken in large quantities, it is a powerful soporific. The temperature of the body is lowered, the force of the heart's action is diminished, and respiration is made slower. Insensibility ensues, with pallor, coldness of the extremities, lividity, muscular relaxation, and, probably, in the end, death from cardiac syncope. Sometimes chloral hydrate fails to relieve suffering, and when it does not induce sleep may occasion excitement and delirium. To increase the dose under such circumstances is dangerous, especially to patients affected with disease of the heart. A most important circumstance for users of the drug to take into consideration is the fact that "the limit of the dose that can be safely taken is not affected by the customary use of the drug, as in the case of opium, but rather the reverse." The habitual use of it to gain relief from sleeplessness and neuralgia is to be deprecated, as, among other bad effects, it tends to "bring on deep melancholy, weakness of will, and inability to sleep without the drug." Like all other drugs taken to gain unconsciousness of the ills of life, it is apt to be used to excess, and to prevent the acquisition of those habits of self-restraint which best conduce to sound physical health.—*Editorial in American Journal of Dental Science.*

THE OLD DENTIST.

HE EXPATIATES TO A VICTIM ON THE DELIGHTS OF FILLING TEETH.

"Not the slightest pain," explained the old dentist, adjusting the hard wood gag that held the jaws of his victim apart to their widest limit. "Does it hurt? Well, now, young man, filling teeth, as I do it, is like going to a matinee."

Meanwhile he had strapped the culprit's head back in his chair, had cut a small hole in a sheet of rubber and, thrusting both his hands into the comdemned's mouth, had forced the affected tooth through the small aperture.

"Gwaum!"

"Yes, you have guessed the name. This is 'the dam.' So called by its inventor, who, poor cuss, never made a cent out of his idea. Luck of inventors, you know. It is a marvelously useful affair. I strap the top of the dam over your nose and eyes with this bridle, and I hang two weights to the bottom, so"—suiting the action to the words, the doomed man began to slowly asphyxiate.

"It takes a little time to dry out the tooth. Everything takes time. But the luxury of it! Now I can work rapidly. There, steady. Hot? True enough."

Mechanically, the old dentist wheeled a bright lathe-like machine from a corner and began to manipulate it with one of his feet. As he tramped he chanted the following dirge to the forsaken:

"The greatest single improvement in

dentistry. With this power drill I can ream out the inside of a tooth in less time than it formerly took to open a small cavity. Sometimes gets loose in the hands of novices. Never employ a young dentist, my friend. A patient of mine went to one of the practicing rooms in town and a scholar went to work at him with the power drill. Just then a classmate asked him for a chew of tobacco and he let go the drill long enough for it to explore the roof of the patient's mouth and to perforate the palate. Used as I manage it, however—''

Burr—whiz—bur-r-r!

"Wagidbell! Oh—o-o! Gooid!'' savagely demanded the lost one, as the cold perspiration followed the saliva down his neck.

"Do not be alarmed; the bell did not ring. This is a beautiful bit of work. I am so close to the nerve that I can see the pink-colored fibres through the bone. Just think how comforting it is to know that the drill can't break through—''

The man in the chair fainted.—*Local Paper*.

"BUSINESS QUALIFICATIONS OF PROFESSIONAL MEN."

In *Items of Interest* for June, 1883, there appeared a criticism upon an article entitled "Business Qualifications of Professional Men''—a criticism so vulgar in its nature that we feel called upon to manifest our surprise that a journal could be found willing to sully its pages with it. Although "Kansan's'' true name is hidden from the dental profession, his "vomit'' clearly indicates the filthy condition of his moral and mental digestive system. "Kansan'' expresses doubt that any "lady of refinement (although Dr. Faught uses the term 'lady of *wealth* and refinement') ever made such a request.'' We can well understand this; it is the judgment derived from such class of practice as he is favored with—but, Philadelphia practitioners know that such requests are by no means infrequent.

Dr. F.'s article was written to serve the *monetary* aspects of the profession, and since he is honest enough to openly state to his "clientele,'' he does not operate for "servants,'' we suggest that "Kansan'' as honestly state to such practice as is permitted him, his desires for such work. Let him tell his best patients that he is sorry to keep them waiting, but Mame, (alias Bridget) Miss Vere de Vere's maid, was in the chair; or mention to them that Mrs. G. Swellington Snobson's cook, not omitting the color, if it is of note, had the precedence, and, as he figures up his accounts at the end of the year, he may remember his criticism, and find that vulgarity and logic are not interchargeable terms. We will not refer to the probable lineage of "Kansan''—"by their fruits ye shall know them.''

Dr. F.'s article was not written to remind him of his estate. As we have, however, repeatedly known the publication of such criticisms, for free circulation amongst certain classes, to increase practice, it does not seem to us impossible that such was the motive of this Kansan Dennis Kearney—the sand-lot dentist.

"PHILADELPHIA.''

THE ONE DEFECT.—At an evening party many years since, at Lady Jersey's, every one was praising the Duke of B——, who had just come in, and who had lately attained his majority. There was a perfect chorus of admiration to this effect. "Everything is in his favor—he has good looks, considerable ability, and a hundred thousand a year.'' Rogers, who had been carefully examining the "young ruler,'' listened to these encomiums for some time in silence, and at last remarked, with an air of great exultation, and in his most venomous manner: "Thank God, he has got bad teeth!''

The Dental Practitioner

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WE have received numerous requests from gentlemen who have seen THE DENTAL PRACTITIONER, to send the journal for the balance of the year, commencing with whatever number they happened to read. These were declined, for the reason that subscriptions are received to commence only with January for one year, or July for six months. To all who wish to subscribe for the balance of the year, commencing with the present issue, an opportunity is now offered for them to do so. How can you invest 25 cents better than by subscribing to THE DENTAL PRACTITIONER for six months? We feel sure that each number will more than repay you. Send all orders and remittances to GIDEON SIBLEY,

Cor. 13th and Filbert Sts., Phila., Pa.

The American Journal of Dental Science comes to us in new dress and new type, and is, as usual, full of interesting and instructive matter. Will the editor kindly remember us when he mails his exchanges?

THE twenty-third annual meeting of the American Dental Association will take place at Niagara Falls, commencing Tuesday, August 7, 1883, at 10 A. M.

THE American Dental Convention will hold its next annual meeting at Saratoga Springs on the 2d Tuesday in August, 1883.

THE Southern Dental Association will hold its fifteenth annual session in Atlanta, Ga., July 31, 1883.

THERE will be held at the Cataract House, Niagara Falls, on Monday, August 6th, 1883, at 2 o'clock P. M., a meeting of all the State Boards of Dental Examiners, for the purpose of perfecting the organization of a National Association of Examining Boards. It is hoped that every board will be fully represented.—George H. Cushing, Secretary of Conference held at Lexington, Ky.

THE eighteenth annual session of the Maine Dental Society will be held in Portland, Tuesday and Wednesday, July 17 and 18, 1883.

THE fifteenth annual session of the Pennsylvania State Dental Society will be held at Cresson, Pa., commencing Tuesday, July 31, 1883, and continuing three days.

In an article published by Dr. R. Koch it is asserted that the only substances worthy of the name of disinfectants are chlorine, bromine, iodine, mercuric chloride and, perhaps, potassium permanganate and osmic acid. It has been found that spores of the bacillus of splenic fever kept for many days in a 5 per cent zinc chloride solution develop when placed in suitable nutritive liquids, and even when added to serum containing ½ per cent zinc chloride. The author expresses wonder how this salt should ever have been seriously regarded by respectable chemists as an antiseptic.

THE Thirteenth Annual Session of the New Jersey State Dental Society will be held at the Coleman House, Asbury Park, N. J., commencing at 10 o'clock Wednesday morning, July 18th, 1883, and continuing three days.

THE next annual meeting of the Wisconsin State Dental Association will be held at Milwaukee on the 3d Tuesday in July, 1883.

CALL FOR DENTAL CONVENTION.

The dentists of the northwest are cordially invited to meet at Fargo, D. T., on Friday, July 27, 1883, at 10 o'clock, A. M., for the purpose of organizing a Dental Society for this section of the country.

It is hoped that all practitioners who take an interest in matters relating to the advancement of the profession will be present and present such papers or essays as they may choose, upon any subject, so that we may have a profitable meeting. The railroads will furnish tickets to those who attend at 60 per cent of the regular rate. The Continental Hotel, at Fargo, will give first-class accommodations at reduced rates. Come and aid in organizing the first Dental Society of the Northwest.

DR. LOUIS OTTOFY, Grand Forks.
DR. LOUIS DAVENPORT, Moorhead.
DR. J. H. SPAULDING, Fargo.
DR. H. B. OBER, Fargo.

THE ODONTO CHIRURGICAL SOCIETY OF PENNSYLVANIA. — The regular monthly meeting of this society was held at the office of Dr. A. Phraener, 1415 Walnut Street, Philadelphia, July 10th, 1883, the President, Dr. Hawksworth, in the chair. After the usual routine business had been transacted, the President introduced Dr. W. Storer How, who, by the aid of diagrams, models, and his various appliances, gave the society a very full and comprehensive demonstration of the manner of mounting his new artificial tooth-crown. Although Dr. How's published directions are very complete, they do not so fully present the many advantages which his method possesses as this practical demonstration afforded. The members of the society feel under obligations to Dr. How for his kindness in meeting with them, and a hearty vote of thanks was tendered him. The society adjourned to meet on the third Tuesday in September, at the office of Dr. J. O Bechtel, 1856 North Twelfth Street, Philadelphia.

THE VACATION.

To most men who pursue a sedentary avocation an occasional change is absolutely necessary, if they would enjoy good health and prolong life. This certainly includes the dental profession, especially those who practice in our large cities and are denied the blessings of wholesome country air, the open sunlight, and the beauties of nature as they appear in the fields, woods and streams. Physicians are beginning, more and more, to recognize "overwork" as a prominent factor in causing many of the ills they are called upon to treat, and whatever prescriptions or directions they may give, "*rest*" is always insisted upon. To rest does not always imply the doing of nothing—to some this would be the hardest task you could impose upon them; neither does it signify that a man must lie upon his back in bed to obtain it, although some poor fellows go so far before they call a halt that they are obliged to do so. The mind and body alike suffer from too prolonged and constant effort in one direction; the more quickly, the more unnatural the conditions under which the effort is made.

When we consider the conditions under which the dentist earns his daily bread, confined in the same room and surrounded by the same objects month after month and year after year, frequently in such cramped and unnatural positions that his lungs cannot properly utilize the none too pure air with which he is surrounded, coming in close contact with persons of every variety of temperament, exercising to the fullest extent his own will power to control others in all conceivable conditions of nervousness, until sometimes he can feel all his nervous energy, "vim," or whatever you choose to call it, "oozing out at his finger ends," is it any wonder that so few reach that period which should be the prime of life, with sound mental and bodily health? We know of no class of men so devoted to their *clientele* as is the dental profession. Whether this may arise from a laudable desire to relieve their discomforts as soon as possible, or from the stimulation of a prospective fee, the *fact* still remains. We often sacrifice too much for our patients, and for *dollars* that will not purchase for us a new organization when the old one is broken down.

We too often forget to apply to our own cases the rules of hygiene which Dr. Parkes has tersely said "aim at rendering growth more perfect, decay less rapid, life more vigorous, death more remote," and take too little thought

> "How best the fickle fabric to support
> Of mortal man; in healthful body how
> A healthful mind the longest to maintain."

We need more rest; rest from care, from business anxiety and perplexities. How can we better obtain it than by availing ourselves of the decided and delightful change which a sojourn in the country affords? We feel quite sure that in a period of ten years the man who takes annually at least a month for rest and vacation, can make a better showing in the items of cash and health, than his neighbor who keeps the mill constantly running except when he is *obliged* to shut down for repairs and take his rest in bed—at the same time paying good round fees to the doctor.

Some may say that they do not feel the need of rest—so much the better. Keep yourself always in such condition by a little timely precaution; don't wait until the machine breaks completely down before you give it needed attention. To such as cannot leave their business for any length of time, an occasional day in the country or upon the water will prove of much advantage; but if *possible* leave the office and all its cares so far behind that you could not, if you would, return upon the shortest notice. Become a high-toned tramp, free to follow the inclinations of your own sweet will, and forget for one short month that you ever were a dentist. Then, if you have "acted well your part," you will return with such a stock of vital force and renewed energy that work will be a pleasure, and you will go bounding over the billows of time with a *light heart*, and in a *sound boat*, until the time for the next vacation arrives. Come on boys,—let's go fishing!

The death of Arbuckle, the cornetist, recalls the fact that most of the men who make an inordinate use of the lungs and buccinator muscle perish early. Ned Kendall, the great bugler, died before his prime, and it is believed that the intense pressure upon the lungs caused by blowing high-keyed instruments predisposes performers to pulmonary affections. Arbuckle's disease was pneumonia.

THE LIFE OF MAN PRACTICALLY CONSIDERED.—Man, born of woman, is of few days and no teeth; and, indeed, it would be money in his pocket sometimes if he had less of either. As for his days, he wasteth one-third of them; and as for his teeth, he has convulsions when he cuts them, and as the last one comes through, lo! the dentist is twisting the first one out, and the last end of that man's jaw is worse than the first, being full of porcelain and a roof plate built to hold blackberry seeds.—Bill Nye.

SUB-MUCOUS CHLOROFORM INJECTIONS IN TOOTHACHE.—Gaillard's Medical Journal, May 19th, 1883, says that Dr. Guillott claims to have had very good results in the treatment of toothache, from the injection of chloroform beneath the mucous membrane of the gums. The effects are more immediate and lasting than those of morphine. There have been no resultant abscesses or inflammations.—*Med. and Surgical Reporter.*

Nitrous Oxide as an Anæsthetic.—M. Paul Bert has recently read a note before the Academie des Sciences of Paris on the anæsthetic properties of nitrous oxide. The difficulties attending the production of anæsthesia with a mixture of nitrous oxide and air under certain barometric pressure, are well known. The pure gas anæsthetizes, but tends to produce asphyxia if prolonged for a certain time; mixed with oxygen it does not asphyxiate, but neither does it anæsthetize. In spite of the danger of asphyxia, there has been a ratio of only three or four accidents per thousand cases in which it has been used by dentists. It cannot, then, be considered as a dangerous substance. It should not be employed intermittingly, as has been done in America. Instead of using first pure nitrous oxide and then pure air, M. Bert uses a mixture of oxygen and nitrous oxide in proportions very similar to those of the air which we breathe. The experiments were made on dogs. The animal first respired pure nitrous oxide for a minute, then the mixture for five or six minutes, and so on until complete anæsthesia occurred, which was prolonged for half an hour without bad effects. He thinks that further experiments are needed before it should be used on man, though it would seem that the results would not be less satisfactory.—*Revue des Sciences*.

Professor See, of the Hotel Dieu, says that the new extract of lily-of-the-valley is one of the most important remedies in heart disease known. It is a powerful poison.

The greatest heat of the air in the sun probably never exceeds 145° Fah., nor the greatest cold 65° below zero. About 139° above and 40° below are the extremes for the United States, and very unusual.

THE QUERIST.

"Please give the history, or mention where the history can be found, of the 'Webster-Parkman' murder. I am one of the younger members of the profession, and have often seen allusions to the affair, but do not know what it is or when and where it occurred.—L. O."

Dr. George Parkman, of Boston, was murdered in 1849, about Christmas, by John White Webster, Professor of Chemistry and Mineralogy in the Medical School of Harvard University. Webster was in debt to Parkman. The latter, who was a "close" man, called at the college to dun Webster. It is supposed that an altercation arose, during which Dr. Webster struck Parkman a fatal blow. If he had at once gone out and announced the killing, with his own story of the provocation, he would no doubt have got off with a verdict of manslaughter. But, finding the body on his hands, he lost all judgment, cut Parkman's corpse into pieces, and burned a large portion of it in his furnace. Parkman was missing for a long time, and, finally, suspicion turning towards Webster, portions of the incinerated bones were found in his laboratory; also a portion of the body covered with quick-lime, but destroyed beyond recognition. The one point in the testimony upon which, more than any other, the evidence of Webster's guilt seemed to turn, was the finding in his furnace a *block of carved mineral teeth*, which Dr. Nathan C. Keep and Dr. Lester Noble (who at that time assisted Dr. Keep) recognized as a piece of work they had constructed for Dr. Parkman in 1846. Webster was hung for the murder August 30th, 1850.—Ed.

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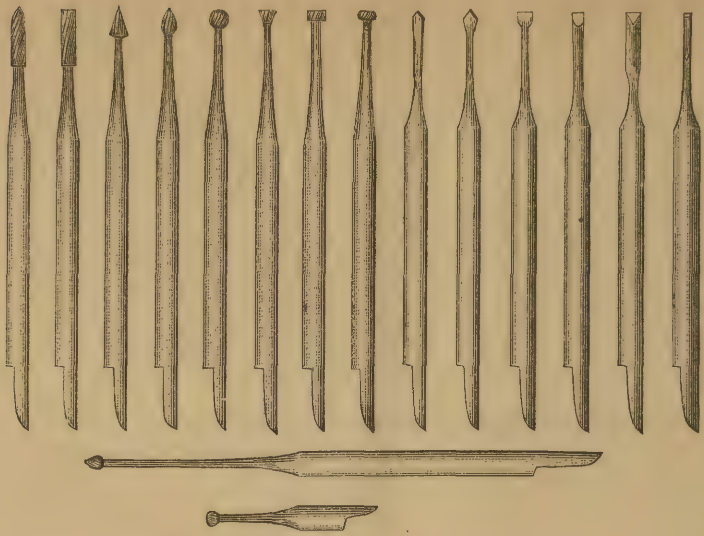

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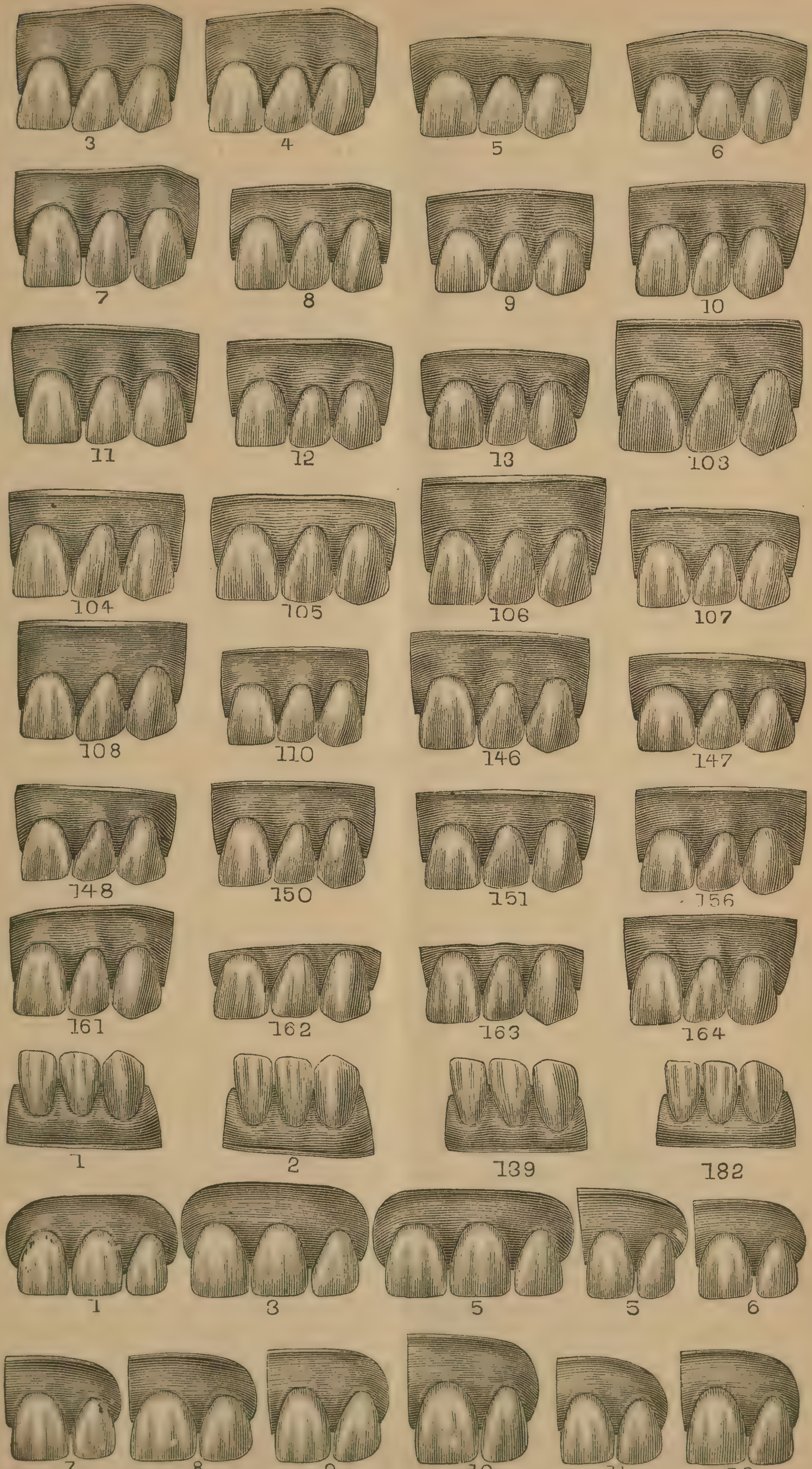

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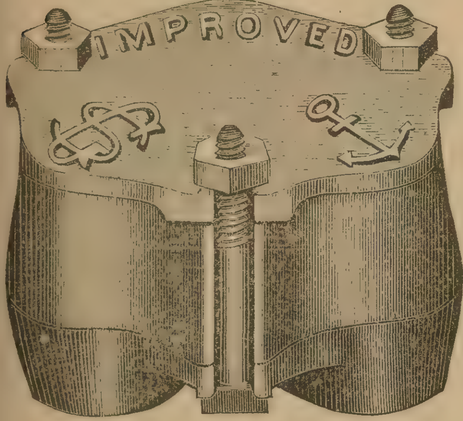

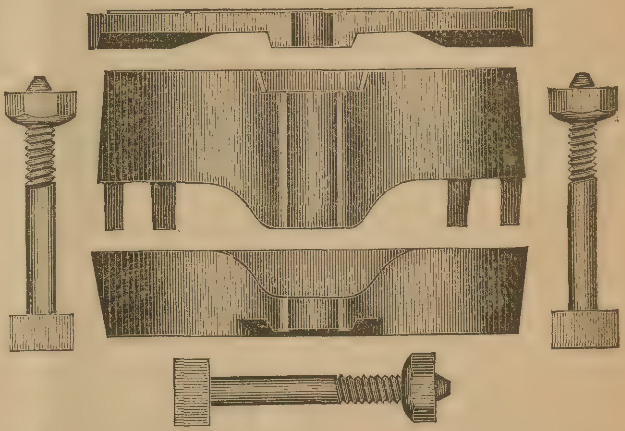

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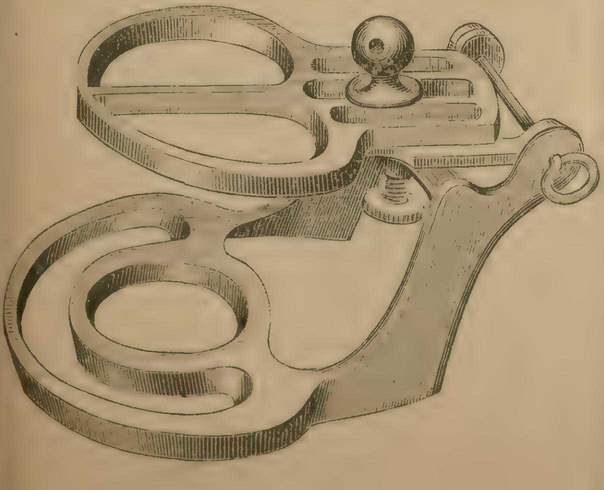

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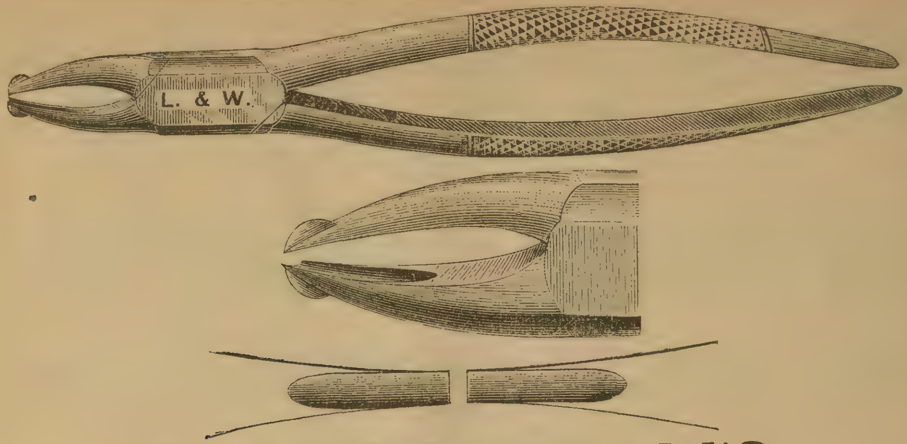

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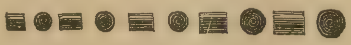

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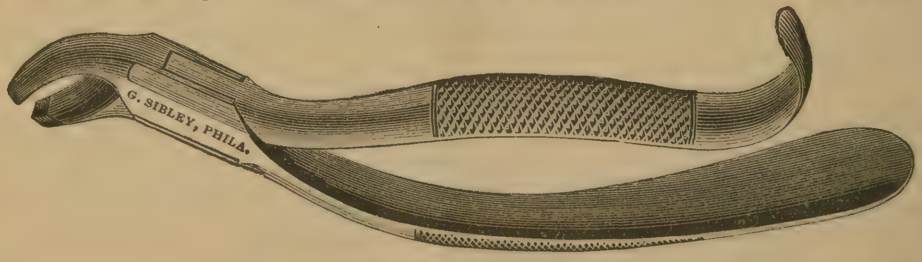
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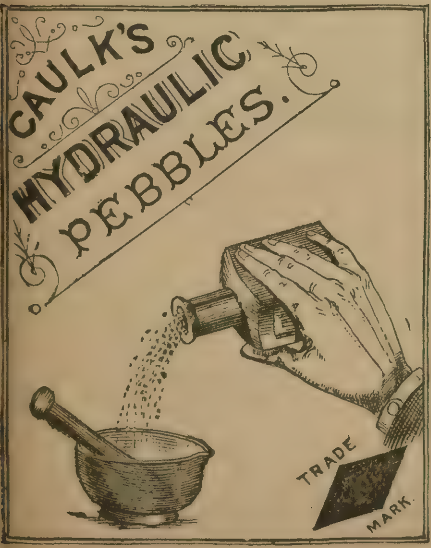

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PERFECT IN SHADE, AND LIFE-LIKE IN APPEARANCE.

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August 15th, 1883. Vol. 1.—No. 8.

THE

Dental Practitioner.

A MONTHLY JOURNAL.

Published by GIDEON SIBLEY. PHILADELPHIA. Edited by CHAS. E. PIKE, D.D.S.

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ODD DENTAL IDEAS.

BY THOS. S. SOZINSKEY, M.D., PH.D.

It is well said by the illustrious Bacon, in one of his great works, "The Advancement of Learning," that the mind of man is far from being of the nature of a clear and equal glass, wherein the beams of things should reflect according to their true incidence; "it is rather like an enchanted glass full of superstition and imposture, if it be not delivered and reduced." As seen in this "enchanted glass," the coming and going of the teeth is well calculated to furnish those unable to "deliver and reduce," the basis of much "superstition and imposture." A strange coming and going it is too, a wonderful provision of nature; and it does not seem less strange and wonderful the more it is contemplated and studied. Here is verily a source of "superstition and imposture," and of "folk-lore" rich in promise.

It would appear that "the cutting of the teeth" has always been regarded as a more or less painful process. The phrase itself is extremely suggestive of pain. Yet, in spite of the general belief to the contrary, it is certain, that in a fairly healthy child, with well-developed jaws and under proper management, there should be little or no suffering of any kind experienced in the coming of the teeth; but no doubt there are many cases in which local uneasiness and pain and digestive and nervous disturbances are present. However, teething is a terrible bugbear to mothers; and it is one of those things which, because they must largely run a natural course, is but slightly amenable to remedies. Hence, as one would expect, remedies innumerable have been in vogue and many of them extraordinary enough. Times ago fresh butter and honey were highly esteemed. Dog's milk enjoyed popularity, as did the brain of a sucking pig as well as that of a hare. An especially efficacious agent was fresh blood from the comb of a cock. In some parts of Scotland what is called *a teethin bannock* was formerly much, and is still considerably, used, resort being had to it at the appearance of the first symptoms of dentition. In his "Notes on the Folk-lore of the Northeast of Scotland," a work published in 1881, the Rev. Mr. McGregor gives this account of it: "It was baked of oat-meal and butter, or cream, sometimes with the addition of a ring, in presence of a few neighbors and without a word being spoken by the one baking it. When prepared, it was given to the child to play with till it was broken. A small piece was then put into the child's mouth, if it had not done so of its own accord. Each one present carried away a small portion." Necklaces and other amulets, blessed and unblessed, are not infrequently met with and are more or less esteemed by many. Bacon, with no indication of want of faith in it, says, "Coral is in use as a help to the teeth of children." Sir Thomas Browne, in his "Vulgar Errors," says, that it (coral) "is used in children to make an easier passage for y^e teeth; and for y^t intent is worn about their necks." This famous author did not discover just how it acted, but whether as an amulet "against fascination is not beyond doubt." Even before the days of Pliny it was in use. It is especially popular still, I believe, among Germans, by whom it is often joined with little silver bells. In his "Notes on the Folk-lore of Northern Counties of England and the Border," published in 1875, Mr. Wm. Henderson says, "A necklace of beads turned from the root of the peony is worn by children to prevent convulsions and assist the cutting of the teeth." Like the coral necklace this one must act on the charm principle. Either could serve the purpose only in the same way (through the effect on the mind) as a red string worn around the neck serves to prevent scarlet fever, or a chestnut carried in the pocket, rheumatism. One might discover some virtue, in at least some instances, in an ivory ring, or the like, for the teething infant to bite, but coral strung to the neck can affect, not the infant but the mother. A pleasing superstition! I will not say an unkind word about it. Nor would I brush away any comforting superstition, of a harmless character, from the mind of a mother, if I could. In fact we are all superstitious to a degree, and considerable of the joys of life springs therefrom. No less an authority than Goethe says, that superstition is really part and parcel of our nature—"Der Aberglaube gehort zum Wessen des Menschen;" and the same great man characterizes it as the poetic part of life—"Der Aberglaube ist die Poesie des Lebens."

The use of the lancet, according to many, including more than a few doctors, is called for by the cutting tooth; but there are some who regard it as fatal. Again and again have I heard mothers attribute the deaths of children to lancing of the gums. Everybody, be it remembered, has more or less of the philosophic spirit, but everybody is not by any means a logician. It is safe to say that lancing of the gums will not destroy life; while, on the other hand, a judicious and skillful use of the lancet may prevent much suffering and save many lives.

The advent into the world of an infant with teeth is usually a stirring event in the family and all around it. This is not an extraordinarily rare occurrence. In his celebrated "Histoire Naturelle," that remarkable 18th century naturalist, Buffon, says, "On voit assez souvent des infans naitre avec des dents assez grandes pour dechirer le sein de leur nourrice." Yes, that, the tearing of the breast of the nurse, is the first and most palpable effect of these peculiar teeth—an effect which commonly calls for their speedy removal. In that rich store-house of curious information, Pliny's "Historia Naturalis," referring to the presence of teeth at birth, it is said, "Such was the case with Manius Curius who from this circumstance received the name of Dentatus; and also with Cneius Papirius Carbo, both of them distinguished men." It is said that Louis XIV was born with two teeth in his upper jaw; and the readers of Shakspeare are reminded, by the young Duke of York, that Richard III began his eventful career with a number; says he:—

> "They say my uncle grew so fast
> That he could gnaw a crust at two hours old;
> 'Twas full two years ere I could get a tooth."

Children born with teeth are generally held to be destined to cut some important figure in life. I see accounts in the papers of the day of the case of a child born in the State of New York with an upper set who, his Italian parents have been led to believe, will grow up to spend their savings, which they had hoped would put them in a comfortable way of living in their native land. It seems that a showman wishes to exhibit the boy.

Pliny remarks, "It is a matter beyond doubt that in young children the front teeth are produced at the seventh month." If Mr. Pliny had stated this to be generally the case he could find plenty of modern authorities to back him in his opinion; but "it is a matter beyond doubt" that dentition frequently begins in the fourth month and not infrequently is delayed until after the child is a year old. The idea is widely entertained even among medical men that early dentition portends an early death. This may be put down as an erroneous idea. The better the bony system of a child is the sooner should the teeth appear. It is usually the case that when the teeth are late in appearing the head will be found poorly "closed" for the age. There is a curious saying, of pretty wide currency, which reads thus: "Soon teeth, soon toes." As the reader will observe, the early appearance of the teeth would appear to be popularly held to be of *pregnant* import. I may hint that anyone who wishes to fathom this will have to find out a little about when to wean babies and what connection there generally is between weaning a baby and the prospect of another. Schiller somewhere remarks that a deep meaning lies in ancient customs—"Ein tiefer Sinn wohnt in den alten Brauchen." Evidently our proverb is like one of the ancient customs.

Again I turn to Pliny's work and I find it stated that the first of the teeth to appear are "nearly always those in the upper jaw." Our old Roman friend is doubtless considerably at sea here. The lower incisors generally come first. When the upper teeth appear first, a notion prevails extensively, that the child will not survive infancy. This is referred to by Henderson, but he gives no explanation. What ground there is for it I do not know, so I must leave each of my philosophical readers to discover for himself.

With the casting of the teeth are bound up several interesting superstitions. Like many, probably, of my intelligent readers, I have thrown my primary teeth, one by one, over my left shoulder, where they might be completely lost, with faith that in so doing good ones would appear in their stead! Agreeable but preposterous idea! Fob the child of it, however, and his life would be rendered by so much more barren. Doubt will blight the most pleasure-giving beliefs and alas! as Goethe says, it increases with wisdom, —"mit dem Wissen wachs't Zweifel." In some parts of England it is customary for the child to go into a dark corner and cast the tooth that is shed into it, repeating at the same time this couplet:—

> "Mouse! here I give thee a tooth of bone,
> But give thou me an iron one."

A more common way of disposing of the tooth than this, is to throw it with a little salt into the fire, at the same time saying,

> "Fire, fire burn bone
> God send my tooth again."

This practice, which may have a tinge of fire-worship in it, is resorted to, I gather, for three reasons: first, because it would be unlucky not to do so; second, because the coming tooth would otherwise be a dog's or some other animal's; and third, because the individual would have otherwise to seek for it *post mortem*. Mr. Henderson tells of a girl who knew "a certain master Simmons who had a very large pig's tooth in his upper jaw, the sad consequence of his mother having by accident thrown one of his cast-teeth into the hog-trough." It appears that among the Japanese it is a customary practice to throw the tooth from the upper jaw on the roof of the house, and if from the lower, under the foundation. In Madagascar, the tooth is thrown over the house.

I was taught not to put my tongue into the socket of the cast-tooth, lest the new one would not come in proper line. I have heard it stated that a result of keeping the tongue away would be the growth of a golden tooth. It would hardly be a paying growth. What is natural is best.

Wearing the first tooth shed as an amulet, was practiced in ancient times. Pliny says: "If a woman takes the first tooth that has shed, provided it has not touched the ground and has it set in a bracelet and wears it constantly upon her arm, it will preserve her from all pains in the uterus and adjacent parts." An admirable practice that! Many of the women of our day might resort to it greatly to their advantage. To no small degree are "the pains in the uterus and adjacent parts," of which so much is heard, due to keeping the attention much on these regions. Let us have the tooth in the bracelet, the superstition and all, if we can thus preserve our women free from "pains in the uterus and adjacent parts."

Timarchus, the son of Nicocles, the Paphian, had a brother, Pliny informs us, who "never changed his front teeth and consequently wore them to the stump." This may be a possible occurrence, but I do not remember to have heard of an authentic case. A dozen of the complete set, be it remembered, have had no predecessors. Rodent-like, Mr. Timarchus' primary set may have disappeared before birth; at any rate this is nearly as probable as that they were never shed.

The statement of Pliny that "women have fewer teeth than men" is not entirely true. As remarked by Cuvier, they are more apt than men not to get all the wisdom ones—how much more so the practical tooth-doctor (the Germans use *Zahnarzt* and do not feel in the least belittled by it) has the best chance to know. And, by the way, this matter of getting the wisdom-teeth, especially in the lower jaw, is occasionally anything but pleasant. I have seen weeks of great suffering from it in persons with short jaws. A soothing wash, the application of ice and free lancing, one, two, or all, are the remedies. Extraction may be advisable.

A double row of teeth is sometimes seen. Pliny tells us that our old friend, Timarchus, had such. The same author refers to a rarer condition, namely, having "a continuous bone in the mouth in place of teeth. This was the case in the upper jaw of the son of Prusias, the King of Bythinia." Readers of Plutarch's "Lives" will remember that it is said of Pyrrhus, the King of Epirus that "instead of teeth in his upper jaw, he had one continued bone, marked with small lines resembling the divisions of a row of teeth." In these cases, as I have already suggested (Æsthetic Medicine) there was likely only a closely set condition of the teeth. A reverse condition, teeth wide apart, is not uncommon and is said to import good luck and much travel.

A great deal has been said and written on the possibility of getting a third set of teeth. Who that has eyes to see can doubt it? In fact, one might ask, who in this age and country does not get a third set? What nature here fails to do man does. The dentist, wonderful man! can and does "up to a certain point, you know," to use a favorite phrase of brother Brooke of Middlemarch fame, act a creative part—apparently. What a deal he does to promote digestion and personal beauty! However, Pliny speaks thus on the subject: "It is a well-known fact that the teeth are sometimes shed in old age and replaced by others," and gives instances. Among us the shedding is "a well-known fact" enough, but the replacing is far, very far from being so. The cases reported are all problematical. I have heard considerable, from various sources, of that old lackey of Charles the Second, Progers, who at the age of ninety-six died, it is said, in cutting his third set. Possibly the old man's jaw was inflamed and the bone looking through at points. In his "Natural History," a remarkable jumble of sense and nonsense, Bacon says: "They tell a tale of the old Countess of Desmond, who lived till she was seven-score years old, that she did dentire twice or thrice, casting her old teeth and others coming in their place." Evidently, if one might judge by the teeth alone, the old Countess may have been a sort of fish; for, I think, Owen says, that it is only in fishes that an indefinite number of crops of teeth may appear; or, perhaps, she was a sort of mermaid ashore. Bacon throws out a hint which might lead one to infer that this strange historical character may have been in nature akin to a bird, when he says, "The instances that give any likelihood of restoring teeth in age, are the late coming of teeth in some and *the renewal of the beaks in birds*, which are co-material with teeth"—a mistake. Bacon really had the idea that a way of bringing about a second renewal of the teeth might be discovered or devised. Says he, "To restore teeth in age were *magnale naturæ*. It may be thought of." Vain thought! I am afraid. Better to think of how to prevent the second set from vanishing.

The conceits and superstitions in reference to toothache are numerous and interesting, but space forbids me to dwell on them. In dismissing them thus I spare my readers, most of whom, I presume, are of the profession, of the household of Apollonia, and, of course, know nothing personally about this "hell o' a' diseases," as Burns more expressively than elegantly characterizes it, from thinking about it, which is unpleasant enough. I may say, however, that Burns would seem to have known it well. One of his stanzas on it begins—

> "My curse upon thy venom'd stang
> That shoots my tortured gums alang."

I will append a few historical notes the facts for which are at hand:

Although there is plenty of reason to hold that the ancients had less occasion than us to cultivate the art of dentistry, yet it received considerable attention from them. Herodotus tells us, if I remember right, that there were dental specialists among the medical men of Egypt. They did not make dentists and then assume them to be doctors, as is customary among us (*vide* the signs). *Their* code of ethics (if they had one) might *in truth* have started off thus: "Dental surgery is a specialty of medical science." But as Byron, or somebody else has said, though with a different reference, "a hint in tender cases is enough;" so I will go no farther in that direction, lest I might not end up on good terms with all my esteemed readers. Yes, the Egyptians knew considerable about dentistry. My professional reader knows more, but only more—I was going to say nothing more. Dental engines (the christener of these useful *motors* must have been something of a quack,) and cunningly shaped burrs are likely modern, but the Egyptians plugged teeth nevertheless. Some of their work may be seen to this day in Theban mummies. Even false teeth were inserted by them. In a letter in *Notes and Queries*, Oct. 11, 1879, it is said by A. W. M.: "I remember some time ago seeing in the Mayer Museum at Liverpool the jaw bone of an ancient Egyptian with a false tooth secured by a golden wire." The Greeks and Romans were disposed to patronize dentists as little as possible. For one, Agamemnon, "king of gods and men," did not need the service of a professional dentist (*odontist*, from *'odous*, the Greek for tooth, might be a more appropriate word to use in this connection, but the additional syllable is objectionable) for his resurrectionist, Schliemann, found thirty-two sound teeth in his jaws. Possibly he was acquainted with an art of preserving his teeth from decay and had strength of character enough to apply it.

Somebody has questioned whether the Greeks or Romans ever extracted teeth. No doubt they did. In his "History of Medicine" Sprengel quotes Cælius Aurelianus as saying, when referring to the offerings of patients in Temples, that "even surgical instruments were bequeathed by inventors to these sacred shrines of medicine. Thus Erasistratus presented to the Delphic Temple of Apollo an instrument for extracting teeth." Why, in the work of Paulus Aegineta there is a whole chapter on the extraction of teeth. From this author I extract or rather draw this interesting passage:—"If any tooth grow to an unnatural size or is broken we may scrape away the projecting or redundant part of it with a file. The lamina which unite to them we may remove as may appear proper with the concave part of a specillum, a raspatory, or a file."

The Romans likely paid as much attention as the Greeks to dentistry. Artificial teeth were not unknown among them. Here is a passage from Martial:—

> "Thais habet nigros, niveos Lucania dentes.
> Quae ratio est? Emptos haec habet illa suos."

The extensive use of artificial teeth as well as the general resort to the various means at the disposal of dentists for the preservation of teeth is very modern. It is an error, however, to suppose that they were unknown among our ancestors at no very distant day. In old Ben Jonson's play of "The Silent Woman," which was published in 1609, one of the characters, who evidently did not appreciate his better half with over half his might, says, "A most vile face! and yet she spends me forty pounds a year in mercury and hog's bones. *All her teeth were made in the Black-Friars.*" In an old work dated 1585 quoted in *Notes and Queries* (1855) it is said of one Sir John Blagrave, that "he caused his teeth to be all drawne out and after had a sett of ivory teeth in agayne."

Even mineral teeth have been made for a good while. A writer in *Notes and Queries* in 1866 quotes the following sentence from a letter by the Duchess of Portland, dated Dec., 1735: "Lord Harvey has the finest set of Egyptian pebble teeth as ever you saw."

Your art, then, my odontological friends, in most of its branches, is not without the prestige of some age. Whoever is possessed of the cramped opinion that great and progressive dental ideas are yet damp with "the dew of youth" should read Pare and John Hunter. But I am ready enough to grant that the art of the tooth-doctor (I am Anglo-Saxon and my tastes are somewhat such) is growing more and more important from day to day. The need for it is great, and it will not lessen. It exists in the interest of humanity. The mission is good. You and I are interested. (This looks like an imitation of my old friend's, Victor Hugo's, style, but, of course, it is unconscious). A wish to end with, although in absence of the cap, it may be without much promise of effect: may this and all other branches of the Divine Art (that is how the ancients often designated medicine—a fine mark of their appreciation of it) grow more and more perfect as the wheels of time endlessly circle round and round!

ON THE TREATMENT OF PULPLESS TEETH.

CASE I.

We will suppose a case: Our patient has had her front teeth filled some time, and with the exception of slight sensitiveness to thermal changes they have been comfortable. But recently one of them became sore, felt longer than its fellows, and finally the face commenced swelling. Perhaps our patient applies at this time, or more likely she applies sooner, when the diagnosis is more difficult. It is not with the diagnosis we propose to deal; for generally this is not hard to make out; but the stage at which the case is first seen will greatly modify the treatment, therefore we will assume that our first patient applies to us in the early stages. We find the tooth quite sore to the touch, and generally slightly discolored. We drill into the pulp chamber with a spear drill, and our diagnosis is verified by the painless plunge of the instrument into the pulpless canal. Having reamed out the opening with a fissure burr, so as to gain easy access, we next proceed to explore the canal with a small nerve-broach, in order to bring away any shreds of pulp not yet fully disintegrated. This done we wash out gently with warm water, and if bleeding has followed the use of the broach we keep up a gentle washing until it ceases. Then, wrapping a shred of cotton upon a Donnelson broach we dip in alcohol and wipe out the canal, repeating until it is absolutely clean; at the last, leaving the cotton in the canal and dismissing the patient until another day, when we shall most likely find the soreness has subsided sufficiently to admit of filling the tooth.

CASE 2.

If, however, suppuration has set in before we see the case, we shall most likely have the discharge of a small quantity of pus upon the withdrawal of the drill, in which event it is our custom to dismiss the patient without making further application, leaving the canal unclosed, that all the pus may drain off. We do not like to leave the canal unstopped longer than a few hours at a time, as food will crowd in and simulate the decomposing pulp as a cause of offense. We therefore instruct our patient to call on the following day when, instead of using the simple alcohol, we wipe out the canal with a mixture composed of equal parts of wood creasote and the simple tincture of iodine.

Why do we use these agents?

Because we know we have in this tooth decomposed and decomposing organic matter. The iodine deals with the already decomposed matter as a disinfectant, whilst the creasote deals with the undecomposed and decomposing matters as an antiseptic.

How do these agents act?

Iodine acts chemically by the destruction of the foul sulphuretted hydrogen. Seizing its hydrogen hydriodic acid is formed, and sulphur precipitated. Then the alcoholic vehicle of the tincture has an antiseptic effect. Creasote acts by holding in check that series of retrogressive chemical changes by which poisonous gases are formed.

In the treatment of this tooth we need both these agents. Yes, all three; the alcohol of the tincture doubtless plays an important part. We use great care in the beginning of our treatment, to wash out with the syringe as much of the offensive matters as possible, and in the first wipings care must be taken not to employ enough cotton upon the broach to make it fit the canal tight, for if we make a piston of it we force foul gas and offensive matters through the apex of the tooth, poisoning the alveolas periosteum and pericementum. Often the greatest care does not suffice to prevent this, especially in old cases where the apicial foramen has become enlarged by absorption. It is usually necessary to treat these cases for ten days or more, repeatedly washing and wiping until absolute cleanliness is obtained. We generally employ alcohol at the last, and we know the canal is clean when the cotton is withdrawn unstained, and odorless. As soon as the discharge of pus from the canal ceases we begin to take care about the crowding of foreign substances into the tooth, and never dismiss the patient without packing a little cotton saturated with alcohol into the canal. This can be easily caught upon a nerve-broach and withdrawn upon his return. When satisfied of absolute cleanliness it is our custom to make a tentative stopping of the tooth by filling the major part of the canal with cotton and alcohol, closing the orifice with gutta percha. This we leave perhaps a month, when, if the case has progressed favorably and all inflammation has subsided, we proceed to fill the canal permanently.

L. G. Noel, D.D.S.

DENTISTRY IN THE BACK WOODS.

BY A. M. GREEN.

Highly honored as is the science and profession of dentistry held in the estimation of the educated masses of to-day, for the increasing and untiring energy with which its colleges are striving by their greater capacity for accommodation and convenience, as well as their increased numbers of thoroughly scholared professors, who execute ad extremum a curriculum, which not only comprehends the education of the dental student to an exalted height, but does so thoroughly. This education necessarily incurring heavy expenses, requiring time, mechanical talent and mental capabilities, it would seem that a Dentist could only be that refined gentleman of $, elegance and ease, with all the luxurious surroundings that his wealth contemplates; doing but little work and getting immense fees. But I am personally and intimately acquainted with a Dentist in the back woods, not borne with lightning speed to his residence, in his private carriage, after a few hours light exercise, but with a small case of instruments in hand, and an immense straw hat to protect him from the summer sun, he tramps for miles through the mountain roads and cow-paths to see patients to extract a few teeth, or take an impression. His trip probably (as it often does) keeps him away all day, and he returns in the evening not to rest, but to go to work to finish a case, that he may get an early start for the next day. He does not walk every day, but while away makes engagements with patients to come for fillings to his office. This is a neat little room, 12x14 feet, with one window and one door, bare walls, oil cloth and matting on the floor, and one corner partitioned off for a laboratory. Can he extract, do you ask? can he insert teeth? can he fill? can he do anything intelligently? Well, a city quack came along one day and found out from our young friend how to manufacture a cement—os-artificial—in the latest and most approved manner, and now claims a new discovery and gets $2 for a small package, and sells great quantities of it too, because it is a good thing.

As an extractor his skill is exceeded by none in my experience, and I know about two hundred dentists All wear his sets for two or three months on trial, and as yet none have come back on account of misfit. Your eyes would feast on some of his gold fillings, ditto to his plastic fillings. Now you may ask me, why is he in the back woods and does he get any practice? I answer that once he had a *good* preceptor, but $ became short and he went to work keeping up his reading until his college fees were raised, which, after having been spent for their intended use, left him with all in head and none in pocket. The country was then his choice, as he well knew how that "a child creeps first, then walks."

So, opening his small office with few instruments and fewer $, he found himself among a set of people who, not being accustomed to a dentist, regarded him as a queer person following an odd pursuit; in fact, were they so afraid of him as to keep away until he, realizing fully his situation, did his first case gratis in order to have the people see what he could do. His manner and conduct gradually commended him to their favor, and his energy to succeed compelled him to wear his large hat, walk, and be as they were to the extent that would win their favor and confidence. Guaranteeing all work or no pay, he of course lost some, from dishonest customers, but got a practice which at the present justifies, and more.

One half the dentists, like one-half the world, know not how the other half of the profession gets along. Some dental practitioners are wealthy young men who, with a gorgeous outfit in a fashionable place, do a fashionable business and get their reputation that way, aided wonderfully by their dollars. Others, as the one I have referred to, who, if you were to steal a look in their window at midnight you would find them at their books after a long day's work, gain their reputation by their honest efforts and hard work, achieve a position among the professional men of success by placing themselves between failure and success, with a mind fully consecrated to the latter; over-riding the discouragements and cranky ignorance of back woods people, they manage honestly to win them over to themselves and are as really true professional practitioners of the science as if set up elegantly in the city with all the surroundings of luxury. And, as their success depends entirely upon their good work and the satisfaction they give, they, in order to keep up that reputation, spare no pains or labor to do so. And, indeed, such is the energy and determination in combination with artful skill among a few I know, that some of the city D.D.S.' might feel a sense of inferiority at a comparison of specimens. A good dentist, like a good anything, must give himself, with time, talent, skill, art, labor, and mind in order to make the profession he follows a success. This is necessary, and he is no less a real D.D.S. because his office is small and surroundings uncomfortable, or no less a quack because he has a fashionable office, lives high, and has a reputation built on his $ influence and social surroundings.

AN UNUSUAL SURGICAL CASE.

Through the kindness of Dr. Mears we recently had the opportunity of seeing the result of a rare if not unique surgical operation. The case was that of a young lady, 20 years of age, who had been accidentally shot, when only two years old, by a playfellow. The charge consisted of small bird shot, a few of which were still present and could be felt underneath the skin at the side of the neck; the gun was within a few feet of her face when discharged, the mass of the contents passing directly through the left side of the face, the direction being from before backward and outward. The greater part of the left cheek was torn away, including the zygoma, the malar bone, and part of the superior maxilla. Profuse bleeding followed, and a physician who was called in declined doing anything for the little patient, as, he said, she was sure to die. Her parents being intelligent people, cleaned the wound and applied pressure, with the result not only of stopping the bleeding, but also of healing the wound, after a number of pieces of bone had been discharged. The result, however, as regards the functions of the jaw, was not very good; ankylosis followed, and the jaws were bound together by a firm band of fibrous structure. For eighteen years she had been unable to eat food which required mastication; the teeth were prevented from developing, except a few which grew to one side. The front teeth were rudimentary, and she stated that she had worn them away trying to push food into her mouth. Her voice was good, and she had just finished a collegiate course, to fit her for teaching. She sought relief from the ankylosis, in the hope that the defective denture might be remedied in appearance, at least, by a double set of artificial teeth.

Dr. Mears found that the jaws were united on the left side with a firm band, fibrous or osseous, and that only a slight lateral movement existed at the articulation; there was also defective development of the bones of the left side of the face. The cicatrix on the cheek had contracted so as to draw away the lower lid and produce extensive ectropion; and the cornea had become opaque, either from the original injury or from exposure, so that the function of this eye was destroyed. The operation was completed at one sitting. A plastic operation was performed, to relieve the ectropion; and, in order to prevent unnecessary disfigurement, instead of making the usual line of incision to resect the jaw bone, the knife was then carried through the cicatrix directly outward toward the lobe of the ear; the ascending ramus of the jaw bone was then divided with the saw, just below the coronoid process, and the portion of the bone above this was removed from its socket. A chain saw was then introduced into the mouth and the vicious band of union was divided, giving at once considerable motion to the jaw. A number of defective teeth roots and stumps were removed, twenty-two in all; six teeth in front and on the right side were found to be good, and were allowed to remain. When seen six or seven weeks after the operation, the wound had healed, except a small superficial spot. The ectropion had been corrected; she was able to completely cover the eye with the lids. The jaw could be opened over an inch, and admitted lateral motion for chewing. She is now being fitted with artificial teeth; her appearance has been immensely improved. Before the operation she was obliged to constantly wear a black patch over her eye, which is no longer necessary; a veil is worn when she is out on the street, which sufficiently hides the cicatrix.—*College and Clinical Record.*

ZINC VERSUS BABBITT METAL.

Thirty years ago a partner of mine, Dr. D. H. Goodno, after experimenting with all the metals ever used for dental dies, and finding nothing satisfactory, at last thought that "Babbitt metal," then but little known, might answer the purpose. He tried it, and found, to his great relief, that it was just what he needed. We adopted it at once, and after having used it exclusively all these years, can say it is a perfect thing for the purpose. And why should it not be? It has all the requirements needed, viz.: non-shrinkage, hardness, toughness, smoothness, and melting at a low temperature. Now, while zinc is hard, its shrinkage is a serious objection. Type metal does not shrink, but is too brittle.

But it is necessary that the Babbitt metal should be made from a correct formula. Much that is sold, while it answers the purpose for which it is generally used, viz., bearings for machinery, is made in such a manner that it costs less than forty cents per pound, will not answer, for it can't be made and sold for less. To ensure a good article make it yourself, as follows: Copper, 1 part; antimony, 2 parts; tin, 8 parts. Melt in a crucible in the order named, turning off as soon as the tin is dropped in, and remelt. The S. S. White Company is now making the above formula. For counter die, use seven parts lead and one part tin, and don't turn too hot; coat the die with whiting. For convenience, moisten the sand with sweet oil, as it is then always ready for use, and there will be no danger of your cast being spoiled from excess of moisture.

I seldom make the second die, even in sharp, irregular lower cases. The plate will always fit the plaster model, and if that is correct will, of course, fit the mouth. It is time that zinc was banished from dental laboratories, books of instruction and colleges. There is no more need of it than of the "fifth wheel to a coach." On the other hand it is simply a nuisance, as any one will say after following the above directions half a dozen times.—HASKELL, *New England Journal of Dentistry.*

PENNSYLVANIA DENTAL LAW.

We re-print the following laws in reference to registration, having just passed the Legislature and signed by the Governor :

An act for the registration of dentists, supplementary to the act entitled "An act to regulate the practice of dentistry and to protect the people against empiricism in relation thereto in the State of Pennsylvania, and providing penalties for the same," which became a law on the seventeenth day of April, one thousand eight hundred and seventy-six, providing for the registration of practitioners of dentistry, and penalties for violations of the same.

SEC. 1. Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same: That it shall be the duty of any person practicing dentistry within this commonwealth within three months after the passage of this act, and of any person intending to practice dentistry within this commonwealth, before commencing the same, to have recorded in the recorder's office in the county in which he or she practices or intends to practice, the diploma or certificate provided for in the act to which this supplemented.

SEC. 2. Any person beginning to practice dentistry in this state after the passage of this act, having a dental diploma issued or purporting to have been issued by any college, university, society or association, shall present the same to the State Examining Board provided in the act to which this is a supplement, for approval; such examining board being satisfied as to the qualifications of the applicant and the genuineness of the diploma shall, without fee, indorse the same as approved, after which the same may be recorded as aforesaid.

SEC. 3. Any person who is entitled to practice dentistry in this commonwealth without a diploma or certificate under the provisions of the eighth section of the act to which this is a supplement, shall make written affidavit before some person qualified to administer an oath setting forth the time of his continuous practice, and the place or places where such practice was pursued in this commonwealth, and shall within three months after the passage of this act have such affidavit recorded in the recorder's office of the county in which he is practicing, and it shall be the duty of the recorder to record such diplomas, certificates, and affidavits, in a book provided for such purpose.

SEC. 4. Any person who shall violate or fail to comply with any of the provisions of this act or the act to which this is a supplement, or who shall cause to be recorded any diploma or certificate which has been obtained fraudulently, or is in whole or in part a forgery, or shall make affidavit to any false statement to be recorded as aforesaid, shall be guilty of a misdemeanor, and on conviction shall be sentenced to pay a fine of not less than fifty nor more than two hundred dollars for each offence for the use of the proper county.

SEC. 5. All acts or parts of acts inconsistent herewith are hereby repealed.

THE air, the atmosphere we breathe, is composed of four parts of nitrogen gas and one part of oxygen. For example, if we mix four gallons of nitrogen and one of oxygen, we have five gallons of air. It is the oxygen that supports life; the nitrogen is simply to dilute it.

Th Dental Practitioner

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THE new officers of the American Dental Association for the ensuing year are as follows:

President, Dr. E. T. Darby, Phila.; 1st Vice President, Dr. C. S. Stockton, N. J.; 2d Vice President, Dr. T. S. Moore, S. C.; Secretary, Dr. G. H. Cushing, Chicago; Cor. Secretary, Dr. Harlan, Chicago; Treasurer, Dr. G. W. Keeley, Ohio; Examining Committee, Dr. Friedichs, La.; Dr. Morrison, Mo.; Dr. Perry, N. Y.

The next meeting will be held at Saratoga Springs, N. Y.

THE officers elected for the Pennsylvania State Dental Society for the ensuing year were: President, Dr. S. H. Guilford, Phila.; 1st Vice President, Dr. Elliott, Meadville; 2d Vice President, Dr. Jas. Truman, Phila.; Rec. Secretary, Dr. Kramer, Lebanon; Cor. Secretary, Dr. Fundenburg, Pittsburg; Assistant Secretary, Dr. Miller, Altoona; New Members of Examining Board, Drs. Green and Magill.

The next meeting will be held at Wilkesbarre, Pa.

THE thirteenth annual meeting of the New Jersey State Dental Society opened its session at the Coleman House, Asbury Park, Wednesday, July 18th, and continued three days. The annual address was delivered by the President, Dr. J. Y. Palmer. He spoke in part as follows:

"It is with great pleasure that I greet you on the occasion of our 13th annual assembling, as a society devoted to the advancement of dental science. For the first time since 1877, we have changed our place of meeting.

"A bill authorizing this society to confer the degree of M.D.S. was urged before the last Legislature of this State, by a committee appointed for that purpose.

"Let us pause a moment to speak a word concerning the loss of him whom the entire profession in the east had learned to think of whenever the electric mallet was mentioned. I refer to Dr. Marshall B. Webb, of Pennsylvania. He was an ardent, enthusiastic young man, stricken down in the prime of life; but not until he had accomplished much in his chosen profession.

"An effort is now on foot to secure unity of effort and systematic action relative to questions touching the manner and standard of examinations, also uniformity of the law's action in the several States where dental laws exist. This movement has commended itself to me from the first. Our State has ever been among the leaders in anything looking to the advancement of the profession, and cannot now afford to lag behind.

"In conclusion, I say, let us strive for harmony and good will in everything we transact."

A large number of applications for membership were made.

Clinics were given by Dr. W. C. Gardinere, on "New Cast Metal Base."

Dr. C. A. Limmie, "Hydraulic Compresser for Swedging Perfect Metal Plates in five minutes."

Dr. Slegel, "New Method of Inserting Crowns."

Dr. Buttner, "Artificial Crown."

Dr. Hayhurst read a paper on "Filling Teeth and the Philosophy thereof."

Also a volunteer essay by Dr. H. S. Chase.

The following papers were also read: "The Different Preparations of Gold for Filling," by Dr. G. Brown.

"Æsthetic Dentistry," by Dr. E. Harvey Bunting.

"The Legal and Moral Responsibility of Dentists in the Administration of Nitrous Oxide Gas," by Dr. J. Allen Osman.

"Lobilia Inflata as a Therapeutic Remedy," by Dr. J. W. Scarborough; and two volunteer essays by Drs. Brown and Scarborough.

Out of the eight candidates for admission to practice dentistry in the State only three were successful.

The following officers were elected for the ensuing year:

President, E. H. Bunting, Sr.; Vice President, J. W. Scarborough; Secretary, Chas. M. Meeker; Treasurer, George C. Brown; Examining Board, Fred. C. Barlow, Jersey City; F. A Levy, Orange; J. Hayhurst, Lambertville; Charles W. Meloney, Camden; Jas. Y. Palmer, New Brunswick.

The average attendance was 150, including visiting members.

They adjourned to meet at the same place next year.

THE PROPERTIES OF WATER.

Water was supposed to be an element until Priestly, late in the eighteenth century, discovered that when hydrogen was burned in a glass tube water was deposited on the sides. (It has been shown that the combustion of hydrogen requires eight parts by weight of oxygen, and vapor of water is the result.)

It was not, however, until Cavendish and Levoiser investigated water that its chemical composition was determined.

The several conditions of water are usually stated as the solid, the liquid and the gaseous. Two conditions are covered by the last term, and water should be understood as capable of existing in four different conditions—the solid, the liquid, the vaporous and the gaseous. At and below 32° Fahr. water exists in the solid state, and is known as ice.

According to Prof. Rankine, ice at 32° has a specific gravity of 92. Thus a cubic foot of ice weighs 57.45 pounds.

When water passes from the solid to the liquid state heat is required for liquefaction, sufficient to elevate the temperature of one pound 143° Fahr. This is termed the latent heat of liquefaction. According to Mr. Person, the specific heat of ice is 504, and the latent heat of liquefaction 142.65.

From 32° to 39° the density of water increases; above the latter temperature the density diminishes.

Water is said to be its maximum density at 39° Fahr.; and under pressure of one atmosphere weighs, according to Berzelius, 62.382 pounds per cubic foot.

Water is said to vaporize at 212° Fahr., and pressure of one atmosphere (14.7 pounds), but Faraday has shown that vaporization occurs at all temperatures from absolute zero, and that the limit to vaporization is the disappearance of heat.

Dalton obtained the following experimental results on evaporation below the boiling temperature:

Temp.	*Rate of evaporation.*	*Barometer.*
212	1.00	29.92
180	.50	15.27
164	.33	10.59
152	.25	7.93
144	.20	6.488
138	.17	5.565

From this the general law is deduced that the rate of surface evaporation is proportional to the elastic force of the vapor.

Thus, suppose two tanks of similar surface dimensions and open to the atmosphere, one containing water maintained constantly at 212° Fahr., and the other containing water at 144° Fahr. Then, for each pound of water evaporated in the last tank, five pounds will be evaporated in the first tank.

It should be understood that the law of

Dalton holds good only for dry air, and when the air contains vapor having an elastic force equal to that of the vapor of the water, the evaporation ceases. The boiling point of water depends upon the pressure. Thus, at one atmosphere (14.7 pounds) 29.22 barometer the temperature of ebullition is 212°. With a partial vacuum, or absolute pressure of one pound (2.037 of mercury) the boiling point is 101.40 Fahr.

Upon the other hand, if the pressure be 74.7 pounds absolute (60 pounds by the gauge), the temperature of evaporation becomes 307° Fahr.

The relations of temperatures and pressure have been made the subject of special investigation from the time of Watt, down to the celebrated experiments of Regnault, which have been accepted as conclusive so far as they extend.

The relations of pressure and density, however, have not been determined by experiment. Messrs. Fairbairn and Tate have investigated this problem and deduced a formula, but late experience has shown that while the Fairbairn and Tate formula is perhaps the best of its kind, it can not be accepted as correctly stating the relations of pressure and density. The vaporous condition of water is limited to saturation. That is to say, when water has been furnished with latent heat sufficient to render it anhydrous, the vaporous condition ends, and the gaseous state begins. Super-heated steam is water in the gaseous state. The temperature of the gaseous state of water, like that of the vaporous, depends upon the imposed pressure. Under pressure of one atmosphere, water exists in the solid state at and below 32° Fahr.; from 32° to 212° it exists in the liquid state; at and above 212° in the vaporous state. It has been stated that water boils at 212°, but M. Magmus and Donney have shown that, when water is freed of air, it may be elevated in temperature to 270° before evaporation takes place.

The following table gives the steam pressure per square inch at different temperatures when vulcanizing by steam heat:

Pressure per square inch, Pounds.	*Temperature, Fahrenheit.*
29.4	250.52 deg.
36.75	263.84 “
44.1	275.18 “
51.45	285.8 “
58.8	293.72 “
66.15	300.28 “
73.5	307.5 “
80.85	314.24 “
88.2	320.36 “
95.55	326.26 “
102.9	331.70 “
110.85	336.86 “
117.6	341.78 “
132.3	350.78 “
147	358.88 “

Bedford, Ind., July 30, 1883.

Ed. Dental Practitioner:—In your journal for July, W. R. Hall, says: "I do not believe mercury, *per se.*, absorbed into the system through the mucous membrane, does the gums any harm." In the Practitioner for April, he said he had seen cases of sore mouth from absorption of mercury from rubber plates. I think he will find it as difficult to reconcile these two statements, as to demonstrate that mercury is absorbed by the mucous membrane from rubber plates, which I asked him to do. The trick of burning the rubber and collecting the mercury is an old one, and does not prove anything as to what takes place in the mouth. When rubber plates dissolve in the mouth, then we may look for free mercury, but nobody has been able to find it yet, and when asked to demonstrate that it can be found in the mouth, the request is met as above. Hence, I repeat, let those who make such assertions prove them correct, or acknowledge they can not do it. During the past year, I have seen as sore gums and plates under black rubber, as we ever see where red rubber is used. Two of these cases have had red rubber substituted for the black. The first case has healed sound and well under the red rubber plate; the other is of too recent date to say what the result will be. Dr. Hall says, I admit the possibility of mercuric sulphide injuring the mouth. I did not use the term at all. I did say, the less amount of red sulphuret of mercury used in compounding the rubber, the less liable to injure the mouth. I presume any one can understand that there could be such an excess of vermillion, that the caoutchouc would not prevent its disintegration in the mouth, and then we might look for what we have not yet seen—mercury absorbed by the gums from rubber plates. Yet, Dr. Hall advises the use of the rubber containing the most vermillion. Respectfully,

W. E. DRISCOLL.

GERMS AND ACIDS.

SUBSTANCE OF PAPER READ BY PROF. J. S. CASSIDY, M.D., D.D.S., BEFORE THE KENTUCKY STATE DENTAL SOCIETY.

So much thought has been expressed of late in favor of and against accepting the so-called "germ" theory of disease in general, and of dental caries in particular, that I would hesitate to say anything on the subject were it not for an honest desire to accept both sides of the question and try to reconcile, in my own mind at least, the difference in the relationship between the germ and the acid, whether sought for in the human mouth or in other conditions, favorable to spontaneous passage of highly organized compounds towards what we call simpler forms of matter.

The influence of minute organisms in causing putrefaction or decay, has been recognized as a fact almost since "the morning stars sang together." Of late years the microscope has demonstrated the existence of many distinct and indistinct species of the germs bacteria, and, perhaps in its own sphere and circumstance, really does promote the disease with which it is credited. There still remains, however, the open question for science to answer: "In what way is their influence accomplished?"

All modifications of force effect chemical changes, easily or otherwise, according to laws and conditions, known or unknown, of mutual affinity between the reacting substances; and "vital" force, whether animal or vegetable, is the most persistent in its selective action, overcoming adverse physical conditions of matter in order to assimilate that by which the principle of life may be sustained. With bacteria, organized structure or the debris of such is required for food, much as with animals of more pretension; they cannot construct proteine from the mineral kingdom, hence inorganic material neither putrefies nor ferments. Neither would organized matter, when excluded from germinal influences, suffer the spontaneous decomposition; terms, by the way, having the same general chemical significance, except the odor. It is well known that the average human mouth is peculiarly favorable to harbor all the requisites for active changes. Eight different kinds of bacteria have been detected there, any one of which, at the normal temperature, can induce molecular disturbances in the semi-liquid, highly organized residue of food mixture and mucus. It is a most convenient and luxurious dish for them, as, indeed, are all other similar mixtures and more or less devitalized tissues generally. But in what way is the degenerative metamorphosis induced? Is it by the removal of certain constituents from the mass in order to nourish and multiply the bacteria? or is it that they bring with them the essence of catalytic influence, which by mere contact changes the already predisposed complex fluid or living tissue into their own proper food? thereby, in the case of fluids, extraneous or otherwise, reducing the residual or most easily affected organic compounds into simpler forms, and with living tissue provoking inflammation, and, perhaps, specific disease. The latter view seems to be in consonance with the general idea of germ influence, premising, however, that the substance or part affected thus must in all cases be in such perfect physical and chemical condition as to furnish the bacteria with their natural and sufficient nourishment.

Now, in all fairness, in the light of experience and common sense, is a tooth, alive or dead, ever in such condition? We answer most emphatically, no. Nor do many of the germ theorists claim such to be the case; a few, at least, admitting that the bacteria crawl, while a large majority, according to my reading, admit that the enamel must first be softened by an acid in order to permit the little animals to feed on the sweet gelatinous portion of the interior, and by such feeding merely comes the disease known as dental caries, in all its varieties. Is not this, so far, a fair statement?

On the other side, (let us agree that it is the chemical side) the fact has always been well known that an organism of some kind was a necessity to fermentation. But fermentation is neither more nor less than chemical change, and, though the substances be whatever they may, if the process be allowed to continue uninterruptedly to the end, it will be found to consist first of due preparation for the reception of germs, then rapid passing through several stages, each stage producing its own peculiar compounds, until finally the acid stage is reached, at which point the process, *per.se.*, is at an end. Let a given mixture be prepared as food for bacteria, and we can foretell nearly all the several compounds which will ensue, down to the typical acid of the special process. But with such mixtures of animal and vegetable matters as must of necessity exist, much or little, in the omnivorous human mouth, as soon as decomposition begins, the results are modified, not alone by the vicissitudes peculiar to the past, but also by the oft recurring changes in the composition of the heterogeneous mixture itself, so that no prediction can be made from day to day as to the probable result; the process is beyond our control. There is, however, one important fact to remember, that an acid is the usual ending of every process of fermentation, and there is no truth in chemistry of which I am more fully convinced than that an acid in its nascent state is the beginning of dental caries, and, indeed, the only solvent throughout the entire course of the disease.

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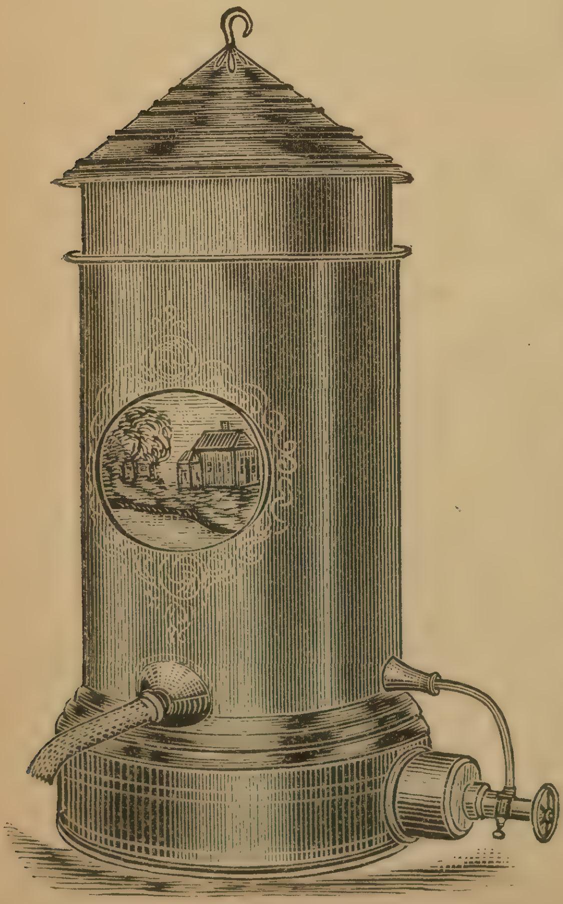

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Molds may be made in almost any flask, but a glance at the cut of the Watt Flask will persuade any one to buy it who intends to use the work.

Ask your Dental Depot for it, or send to

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KING'S OCCIDENTAL AMALGAM.

PRICE REDUCED TO $3.00 PER OZ.

5 oz. at one time, $2.75 per oz.; 10 oz at one time, $2.50. per oz.

This Amalgam has been before the profession in Ohio and Western Pennsylvania for some years, and all who have used or tested it, agree that it has merits over any other Amalgam in the market.

The process of manufacture differs from that of other Amalgams, and

BY A NEW INVENTION

Dr. King is enabled to obtain better results, both in regard to COLOR, SHRINKAGE and EXPANSION, than is obtained in any other alloy in the market.

Test for color consists of sixty grains of Sulphuret of Potassa, dissolved in one ounce of water. Amalgam plugs to be left in this solution twenty-four hours or more. The Occidental will remain bright after this test, and we know of no other Amalgam, at even double the price, but that will discolor. All who would use the best should buy it.

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1883

"OHIO STATE JOURNAL OF DENTAL SCIENCE:"

GEO. WATT, M.D., D.D.S., Editor, Xenia, Ohio.

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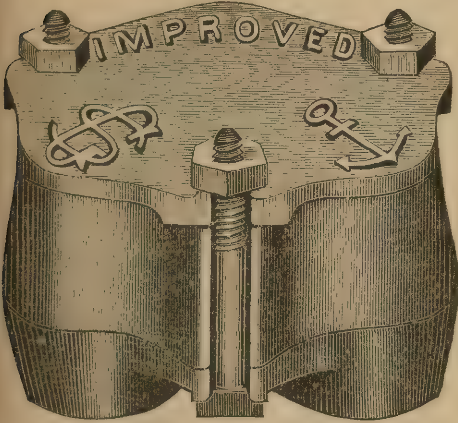

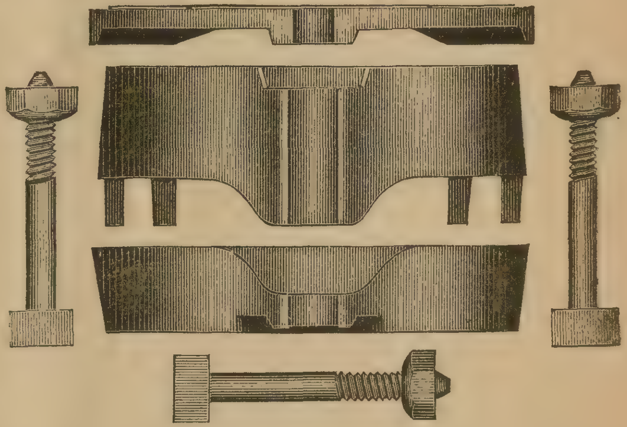

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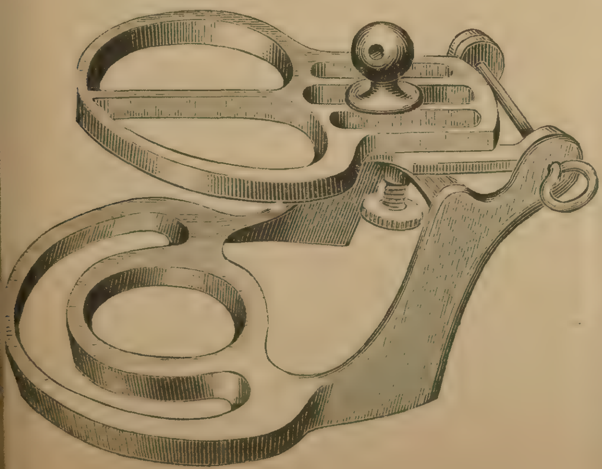

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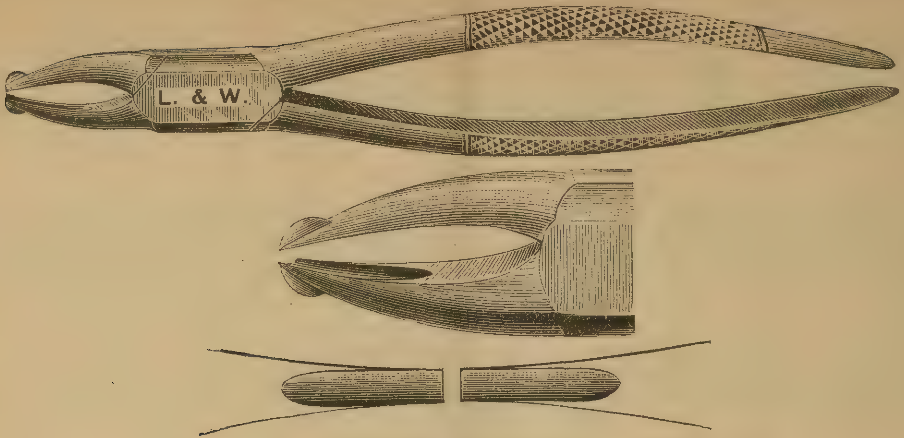

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Octagon Joint, nickel-plated, per pair, $3.00.

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Flattened.

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Loose, and can be used as Pellets.

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These numbers are to denote that No. ½ is a half sheet of No. 4 Gold Foil, cut into strips and rolled into cylinders; No. 1, one sheet; No. 1½, one sheet and a half; No. 2, two sheets, etc.

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In making these cylinders, our best 1000 Gold Foil is used.

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Per ⅛ ounce - - - - - - - - -	$ 4.00
" ½ " - - - - - - - - -	15.00
" 1 " - - - - - - - - -	30.00
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Having been subjected to the severest tests before offering it to the Dental Profession, it has been demonstrated that it will not shrink or expand, nor discolor in the mouth, and can be used in the Front Teeth with better results than any other Filling except Gold.

PRICES:

1 Oz., $3.00, 2 Ozs., $5.50, 4 Ozs., $10.00.

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IF the alloy you use shrinks, thus allowing the fluids to enter the cavity, and the decay to go on as freely as before filling,
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IF, in using other alloys, you find that they discolor in the mouth,
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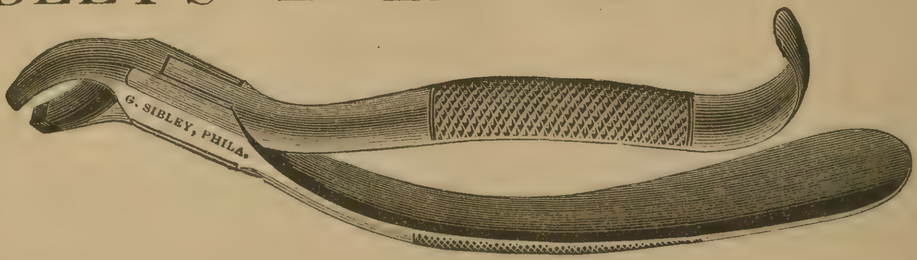

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These FORCEPS are of excellent finish—NICKEL PLATED. Their adaptation to both tooth and hand is unsurpassed. The best quality of steel is used in their manufacture, and the greatest care exercised in tempering them. Any Forceps broken, with proper use, within one year from the date of purchase, will be exchanged.

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Hurd Pattern Spring Forceps, per Pair, Nickel Plated, - - 3.25.

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MARK.

CEMENT.

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PRICE

One Color,

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Medium, Light,

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Per Package.

THIS COMPOUND NOW STANDS WITHOUT A RIVAL.

From Two to Four Years' Test by Leading Dentists Throughout the World, has Proved it to be all that has been claimed for it.

Fillings that have been Standing in the mouth OVER three years, in comparison with other plastic naterial in the market, show not only its SUPERIORITY, but it has proved to be *more insoluble* than nany of the so-called insoluble cements. We have increased the quantity fully one-third, and all bottles re lettered with **"Caulk's Diamond Cement."**

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Caulk's Hydraulic Pebbles.

This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such materials. It is harder, tougher, and stronger; resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

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SUPERIOR ARTIFICIAL TEETH.

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SEPTEMBER 15th, 1883. VOL. 1.—NO. 9.

THE Dental Practitioner.

A MONTHLY JOURNAL.

Published by GIDEON SIBLEY. PHILADELPHIA. Edited by CHAS. E. PIKE, D.D.S.

Office of Publication, 13th and Filbert Streets, Philadelphia, Pa.

ENTERED AT THE POST-OFFICE AT PHILADELPHIA, PA., AS SECOND-CLASS MATTER.

OLD AND NEW.

When we contrast the past thirty years with the present, as a criterion of progress in the really useful arts which tend to ameliorate the sufferings of mankind, the reasonable must be impressed with the gradually increasing counter-tow of deterioration. To no class is this progressive work of vital contamination more apparent than to the intelligent dentist. As guardians of the ingesta, portal of the stomach, and ingress air passages to the lungs, those with a professional experience of thirty years or more must have observed the rapidly increasing degeneration of all that pertains to the healthy structure of the teeth and their adjuncts, which act as primary indicators of healthy organic stamina and functional action. Nothing shows more conclusively the reality of physical degradation of the human race than the multiplication of medical specialties and practitioners. When it was first discovered—in modern phrase—that a foreign substance could be introduced into the cleaned cavity of a decayed tooth, and impacted so as to render by contact its walls free from the impressions of external substances, comparatively few teeth required the protective service. But after the protective agency of filling was made proof positive—when all the requisites of success were fulfilled—the first modern data were established for noting the increase or decrease of cause that led to decay, as well as for testing which of the two filling materials, gold or tin, was the best adapted for adjustment and its stay. With the test of time, gold won the preference, which it still retains. In 1835 or 6 amalgam was first used, filings of silver being incorporated with tin through the agency of mercury. The attraction of silver in this form for mercury was great, but not absorptive, so that after expression by broad-bladed pliers through chamois skin, globulus portions still remained free, and in oxidizing, after the amalgam was introduced into the cavity of the tooth, turned the bony structure black. But with the proper admixture with tin, its centralizing absorptive power neutralized the tendency to surface oxidation and prevented discoloration. Still, with hand admixture, the quantitative balance of relative parts was not sufficiently exact for accomplishing all the requirements for a permanent non-oxidizing filling, although in ratio preservative. From metallurgical competition we now have, with the addition of gold and platina in alloyed combination, a material—when manipulated in proper proportions and relative skill—that rivals gold in preservative qualities. Yet, with the rivalry of competitive manufacture, the dentist, and through him especially, the patient, are each subjected to imposition from the experimental speculations of unprincipled dealers in dental material, who sell compounds under the style of gold and platina alloy which visibly shrink from the walls of the cavity. Testing material used in dentistry is at the vital and pocket expense of the patient, and should not be attempted except with the assurance of dealers of truthful and well-tried standing. The older the manufacturer's experience in the production of an article of specialty, the better trained is his judgment for certainty in combination, and the good policy of honest dealing. New competitors can rarely produce an imitation that should tempt the user from comparative certainty, for a majority of the vaunted discoveries and appliances in medical art are but the reproduction of past speculations in guise, adapted to the empirical tastes of the Gulliver family.

Even the class rated as valuable inventions and discoveries, such as the art of printing, innoculation, flesh ingrafting and projectile explosives, etc., are of undoubted Chinese origin, and the former were as plainly indicated in his descriptions as the latter, under the style of *polvoro fulminati de Chinie*, by Marco Polo. There is also abundant proof that dentistry in a primitive form was practiced by the Chinese ages before the discovery of America; and the decayed teeth of the Herculaneans were successfully filled with Pussolian cement long before the Vesuvian vulcan smothered them with an excess of raw material. But nature's hints, as well as the practical suggestions recorded in manuals of scientific research, are alike disregarded and forgotten in the passage of a generation, until some empirical adventurer, trusting to the engrossment of the public with affairs of the present, adopts the lusus and reissues it in disguise as a discovery of his own. No matter how absurd and ridiculous the benefits offered in exchange for the purchase money, the members of the Gulliver family, of which the public is largely composed, immediately seize upon the gudgeon bait, and make no attempt to disgorge until their vitals feel the hook. As an illustration: There is in the Hunterian Museum of the Royal College of Surgeons the section of a hen's head, in the comb of which is imbedded a human cuspid tooth, vide catalogue and illustration on page 628 of "Once a Week," vol. 3, etc. Upon the illustration of this freak of nature Dr. Hunt, of Cincinnati, and Younger, of San Francisco, have advertised the medium of a cock's comb for preserving the vitality of human teeth—in waiting transition from one mouth to another—for transplantation.

Even the conductor of the Rochester *Odontographic Journal*, in giving a reprint of the illustration, expresses a doubt of its authenticity, with the flippant heading of "The Innocent Abroad," which, in refering to the devotee excursion of the New York pilgrims to Jerusalem, as depicted by the humorist, affords an apt expression of his position and the times. In the scene of caricature he dismounts on reaching holy ground, and, with exemplary veneration, raises and bears the ass upon his shoulders, until the sighed exclamation of "Mark Twain" from the rear reminds him that appreciative humor can co-exist with reverenced absurdity.

"When doubt and ignorance doth the head incline,
Gosling wit flows rampant in every line."

NOTTE O. EILIMS.

METAL CASTINGS FOR DIES.

A perfect metal die and how to make it in the least possible time, is a question frequently occurring to the dental practitioner. If it could be made in a few minutes, without soiling the hands with damp sand and black ladles, it would be a pleasant and agreeable business, but until that desirable time arrives we will have to go on in the same old way, with an occasional improvement now and then.

Among these improvements I will here give some that I have adopted and found to expedite my plate work in a very satisfactory way.

I use the ordinary moulding sand, with the addition of powdered pumice stone, which I have found, from long experience, to be better than the addition of powdered charcoal. The fresh moulding sand having too much clay, requires the pumice to make it light and porous, allowing the steam to pass through when the melted metal is poured on it. The proportions are two-thirds fresh sand to one-third powdered pumice, dampened with clean water.

I keep this moulding sand in a zinc-lined box with a tin lid. A little water thrown over the sand after using will keep it damp and ready for instant use for weeks,—a saving of valuable time when hurried with pressing work.

The moulding box or flask I use is circular, without top or bottom; each edge is turned over a wire to stiffen it; with a groove about the middle to keep the sand from falling out when turning, and is made of galvanized sheet iron four inches in diameter, two inches and three-quarters high, made thus so as to take as little sand as possible. This box will answer for all cases, when the plaster casts will fall out with a slight tapping with the finger. Where the gum is considerably undercut, the Hawes flask is the proper thing, although I find but little use for it.

In moulding, the plaster cast is placed in the centre of the flask, a handful of sand is sifted over the top of the cast, a little sprinkled at the side of it, then gently pressed close to the face of the cast with the fingers. The box is then filled, and gently pressed down and smoothed off with a leveler. It is in pressing the sand into the flask where caution is needed. The instant the melted metal is poured on the damp sand, steam is made; it is bound to go somewhere, and if the sand is packed very hard and close, the steam will go through the melted metal, called, in technical language, boiling. To prevent this the sand should be packed lightly, which allows the steam to penetrate through the sand and escape in this way, without injury to the cast.

W. R. HALL.

[TO BE CONTINUED.]

A FEW QUERIES ON THE SUBJECT OF DENTAL EDUCATION.

MR. EDITOR:—Why is it so frequently remarked by competent judges that if a class of students are good plate workmen they invariably do poor work at the operating chair? Is not two years a very short time in which to study anatomy, physiology, chemistry, therapeutics, and at the same time acquire proficiency in the art of filling teeth and of making artificial dentures?

Why should a man who wishes only to practice at the chair be compelled to learn to make artificial sets? or, why should the mechanical dentist be forced to take such an extended course in the studies which belong solely to the medical profession? It is just as absurd as it would be to require a physician to be able to make an elegant false leg, or to declare that a manufacturer of artificial limbs should not be allowed to follow his vocation unless he had been graduated as a physician. The courses on mechanical and operative dentistry differ so widely that they ought to be entirely separated. If a young man wishes to learn both branches, he can do so. But I do not consider it either just to the student or politic for the profession, to require it. Why are there no entrance examinations in the dental colleges to keep the scum of the farms and the blockheads of the counting rooms from pouring, without restraint, into our profession? As matters stand now, the man who fails in business because he can't write a respectable letter or add accounts correctly, the milkman who tires of rising early in the morning, the huckster whose throat has become worn out from excessive shouting, all may rush to the dental college and be matriculated without the slightest opposition. And here they are, without as much breadth of character or education as the ordinary school boy of fifteen, taking a course of lectures, which in less than two years will entitle them to call themselves Doctors of Dental Surgery, and to claim a position in society which ought only to be awarded to the thoroughly educated man.

Let us see what the student must do in order to obtain this degree: His first year is spent in mastering the dental nomenclature, filling teeth, and making artificial sets. Being unable to understand the first course of lectures for want of preliminary instruction, almost his entire professional education is acquired in the last year, which is so divided between mechanical and operative work as to leave him no time to do justice to either. Judging by the proficiency of the average dental graduate, it is quite evident that each one of the courses just referred to should receive two full years of undivided work and perseverance. Then let each student, as he completes each course, receive his diploma as either a mechanical or operative dentist. Were this plan followed the young graduate would be spared much shame and anguish, while the moral tone of the ejaculations which are forced from his unfortunate patients would be considerably improved.

The medical colleges, with few, and, let us hope, ever lessening exceptions, require that a student, before entering their institutions, shall pass such preliminary examinations as may prove him to be fairly educated. The medical student of to-day gives the closest attention to his studies for two full years, and, in many colleges, three or four years. He does not have his studies continually interrupted by being forced to run off every now and then and learn to make wooden legs. See how different their condition is from that of our unfortunate brothers. When I reflect upon the unprepared condition of the dental student as he enters the college, of the multitudinous branches which are thrust upon him, and of the utter inadequacy of the time afforded in which to become proficient in them, I wonder that the dental profession is as much respected as it is. For as matters rest now the first few years of a dentist's professional life find him neither fish, flesh nor fowl, but an incongruous mix of all three.

If these are facts, and that they are such no experienced dentist can deny, it is evident that a three fold improvement should be made in dental education.

First, that we shall have entrance examinations to our colleges. Second, that operative and mechanical dentistry shall be made two separate branches. Third, that the courses of instruction shall be doubled in length.

Dedicating this article to the further advancement of the Dental Profession, Sir, I remain

Your most obedient servant,
SILAS DEAN.

THE BUSINESS QUALIFICATIONS OF PROFESSIONAL MEN.

BY L. ASHLEY FAUGHT, D.D.S.

Since the publication of my article on the above subject in the February and March numbers of the DENTAL PRACTITIONER, there have appeared, in other journals, criticisms on one point, couched in language so improper that the writers, in most instances, seem to have been ashamed to append their signatures.

One who writes for the public does not expect all to agree with everything he says, and if some one cries "*not so!*" reserves to himself the possibility that the non-agreement of the critic may be a reflection on the critic's judgment rather than on his own opinion; and, trusting the good sense of the general public to discriminate, passes the disagreement over in silence.

Any further communication, therefore, from me on the above subject is not intended as a reply to any criticism, or as notice taken of anonymous writers; but simply to place before my readers the contents of a private letter received by me.

No reasons were given in my original article for assertions made except where it was thought necessary. It appearing, after publication, that a few seemed not sufficiently conversant with the principles underlying the construction of society to comprehend one of these plain assertions, I deemed it best to write more extendedly at some future time, on that particular point. While such article was in course of preparation the letter referred to came to hand, and as it fully covered the ground, with the advantage of being the work of one older and more experienced than myself, I requested the writer to allow its publication. It is appended without further comment.

—

106 N. 11th St., Phila., Pa.,
Aug. 4th, 1883.

MY DEAR DR. FAUGHT:—I have read your article on the need for business qualifications among dentists, and, naturally, have had my attention particularly directed to that which has seemed to some to be an objectionable position, viz., the advised declination of servants as patients.

I wish to say that I consider your views in this matter as *practically* correct.

I am sure that no one would more willingly or more kindly relieve *anyone* in suffering than yourself, and that the question of rich or poor, white or black, or even that of compensation would never be a factor in the doing of the work, therefore the criticisms are very unjust to the spirit of your remarks; but the main position, that of the non-advisability, or even *propriety* of permitting a mingling of classes widely distinct in *every* country and under *all* social organizations, is that which is tacitly assumed by dentists generally, and I think it cannot be denied that the *inflexibility* of the rule is just in proportion to the high grade (socially and intellectually) of the large majority of one's patients.

It is recognized that *all* classes have "rights," and that these should be respected, and that one of the "rights" of those who occupy what are designated and usually regarded as the "better" positions in society is an exemption from unwonted contact in such intimate association as is *necessarily* entailed by visits to the dental office; thus it is that kindness toward the *many*, rather than any unkindness toward the *few*, who might occasionally ask for services, is the incentive which dictates as "proper" the refusal to give *long sittings* or to do *elaborate operations* for others than those whom each one regards as his "regular class" of patients.

With kind regards I am truly yours,

J. FOSTER FLAGG.

PROLONGED anæsthesia seems to have been produced by M. Bert very simply indeed. A mask and two caoutchouc bags are all the apparatus necessary. The new method he has tried on animals is to cause anæsthesia, first with the pure protoxide of nitrogen, then with a mixture of the protoxide and oxygen (when the blood recovers the oxygen necessary to it), and, finally, the administration of the pure protoxide again. In this way he says he kept a dog insensible half an hour, and both asphyxia and a return to consciousness appear to be obviated while the patient is under the operation.

STYPTIC AND ANTISEPTIC COTTON.—Tannic acid, 5 parts; carbolic acid, 4 parts; alcohol, 50 parts; purified cotton, a sufficient quantity to soak up the solution dry, and preserve air-tight.

FORM AND NATURE OF ACCIDENTS OCCASIONED BY THE ERUPTION OF WISDOM TEETH.

BY DR. E. MAGITOT, PARIS.

Considered in a general manner, the accidents occasioned by the eruption of a wisdom tooth are very numerous.

A methodical division of the phenomena is not an easy thing, and very often an accident of a certain nature at the first appearance modifies itself to pass into and through other successive forms.

However, as a classification is necessary to the description, we have adopted the following:

1. Inflammatory accidents, subdivided into accidents of the mucous membrane, and accidents of the bony structures.

2. Nervous accidents, pain in the nerves, troubles in organs of some special sense, and reflex phenomena.

3. Organic accidents, which include the follicular cysts of the wisdom teeth, the odontomata, and new formations.

First, inflammatory accidents.

Mucous accidents.—The mucous accidents connected with the eruption of wisdom teeth are extremely frequent. They commence with a simple irritation of the gums and finish with an abscess, ulceration or gangrene. Sometimes, however, the local accident is isolated, sometimes there is a complication of disturbances of the neighboring parts more or less intense.

In all cases this mucous form of accidents is, of many, the most common, for in the statistics given by Dr. David of seventy-five accidents due to this eruption, it represents a proportion of seventy observations, which gives in the sum of various accidents the proportion of about 93 per cent.

In the most simple cases the mucous membrane of the region of the wisdom teeth is merely lifted, moderately swollen and tender. The accident, without passing unperceived, causes only a slight pain, and the tooth shortly overcoming this obstacle, appears above the gum in the midst of some shreds having about the aspect of proud flesh. The pressure of these shreds, which remain for some time on the chewing surface of the tooth, causes invariably the formation of certain pouches, which become filled with foreign matter and debris of food, and thus become true centres of the production of caries.

It is by this process that they cause so premature injuries to wisdom teeth to such a degree that some inattentive observers have asserted that wisdom teeth often erupt in a carious condition.

In a more pronounced stage of the inflammation of the gums, the portions of mucous membrane lying upon the tooth are the seat of a true abscess, at the centre of which the tooth itself is found, which remains thus imprisoned without communication with the exterior. It is to this form of accident that Chassaignac has given the name, *encystment* of the wisdom tooth, to distinguish it from the preceding form, which he calls encasing.

This distinction, which seems a little too fine, is in other respects wholly artificial; for the first form ordinarily blends with the other, when, after the spontaneous or intentional opening of the abscess, the enclosed tooth finds itself in communication with the outside.

The phlegmonous form consists of a true follicular abscess, and in this case the local accident most commonly extends itself to the neighboring parts. Sometimes it is an inflammation of the gums, which extends forward along the border of the gums and sometimes even to the median line. Sometimes it is an inflammation of a gland, whose particular character is that of extreme persistency as long as the cause remains unknown. Toirac mentions a very remarkable observation concerning it by Dr. Fiard. From the glands, the inflammatory process extends itself to the soft palate and to the pharynx, giving place to an equally obstinate inflammation.

Be it as it may, this form of accidents is altogether peculiar for the inferior and superior wisdom teeth.

For the inferior jaw, the simple eruption of a tooth, otherwise normal as to volume and direction, may be its cause, while in the upper jaw it produces only that condition when the wisdom tooth is directed abnormally either outside toward the cheek or backwards toward the anterior part of the palate. It is, moreover, generally to this form that the troubles confine themselves, as we have remarked. To the phlegmonous form which we were indicating, and now and then also to a simple inflammation of the gums, the ulcerous state often succeeds. One sees them on a level with the torn shreds of the mucous membrane, or, as a consequence of the opening of the follicular abscess, some irregular ulcerations with grayish bottom, covered with shreds of epithelium, which give the aspect described under the name of ulcero-croupous stomatitis.

The seat of these ulcerations is the region of the border of the gum around it, quite often it is the mucous membrane of the cheek; more rarely the seat of the ulceration is on the tongue, when the wisdom tooth has a direction inwards. In every case the ulcerous variety is that which we have indicated elsewhere in speaking of the inflammation of the gums properly, as representing for a certain number of authors, and for ourselves, the true nature of ulcero-croupous stomatitis as occurring among the soldiers, and in general among young subjects at the age of the eruption of the wisdom teeth.

The mucous accidents of wisdom teeth comprise, then, as one sees, three varieties: the simple inflammation of the gums, the phlegmonous inflammation of the gums, and the ulcerous variety.

But this is not all. In these three varieties, more especially in the last two, there are produced ordinarily some complications in the neighboring parts. The most frequent is the inflammation of the sub-maxillary gland. It appears almost infallibly when the local inflammatory phenomena take a notable intensity of a certain duration. This adenitis, particularly persistent in the ulcero-croupous form which has been described as occurring among young soldiers as the consequence of the pressure of the collar, or other special cause, appears in our opinion as belonging to the series of accidents of the wisdom teeth. This glandular inflammation, considered as a complication of an accident of the mucous membrane, will have, nevertheless, for its exclusive seat, the sub-maxillary glands for the inferior jaw and the parotidal glands for the superior. The cervical glands themselves become swollen only when the morbid phenomena have invaded the bony tissues of the jaws. From glandular swelling to inflammation properly there is only one step, and this new complication is very frequent. Here the inflammation appears under the different forms which we have designated as simple oedema, circumscribed abscess, and diffused abscess, according to the extent of the original injury. We may say that in an accident of the mucous membrane the oedematious inflammation is the most common complication.

The phlegmonous form belongs to the cases of severe inflammation of the mucous membrane, or to those particular cases in which an inferior wisdom tooth finds itself enclosed in the soft parts of the cheek, where it determines ulcerations, indurations and fungous growths, in the midst of which the tooth may be found encased.—*Le Progress Dentaire.* [L. B. BROOKS, — *New England Journal of Dentistry.*

DANGER—CARELESSNESS.

As the nature, extent, and influence of disease germs becomes more and better understood, does the responsibility of the dentist, as well as that of the general surgeon, become more apparent, in respect to the cleanliness and purity of his instruments and appliances of every kind. All are familiar with facts that ought, if at all considered, strongly impress the subject upon the mind of every one. For instance, an amount of small-pox virus, so small as to be scarcely visible when put upon a little scratch or abrasion in the skin, is sufficient to produce that dread disease throughout the body.

Every one knows, or ought to know, what is accomplished by an exceedingly small amount of vaccine virus.

The sting or bite of an insect is usually attended with very unpleasant results, such as pain, inflammation, and sickness; the former two sometimes extending so as to involve other structures and organs, and sometimes these conditions are of long continuance. In many instances death has occurred from these accidents.

Now, in such cases, these results occur, usually, from an amount of poison invisible to the ordinary, unassisted eye. The poison from the knife of the dissector or surgeon, though not apparent upon the instrument, in many instances produces disastrous results, in the way of blood poisoning; many valuable lives have been lost by this means.

With knowledge of these and similar facts, how exceedingly cautious is the prudent surgeon, not only with reference to himself, but especially with his patients; careful in reference to the purity of his instruments, his hands, and every appliance used; and so important is this principle now regarded that the condition of the atmosphere receives special attention, hence the general use of disinfectants and antiseptics, that shall apply not only to the instruments and appliances, but pervade and purify the surrounding atmosphere. If all this is important so far as the general surgeon is concerned, is it not equally important that the dentist should employ the same care and precaution? To the dentist, this should come with as much if not more impressiveness than to the general surgeon; for the instruments and appliances of the dentist are passing in rapid succession from the diseased and wounded mouth of one patient to another, and it requires no special effort of the imagination to perceive that poison may thus be readily conveyed from one person to another, in the form of dead blood, decomposing pus, and other putrefying organic matter.

But is it possible that anybody is thus careless? Yes. In many offices there is a manifest want of cleanliness, which is shown by blood, pus, calculus, and other debris on the instruments—blood on the forceps, debris of decay, and other things on the excavators, comminuted dentine in the burs and drills, a spittoon with offensive, fetid blood, and soiled napkins. Such condition of things should not be tolerated nor exist.

In the dental office too great care cannot be exercised in respect to cleanliness. All instruments used in the mouth should be thoroughly cleaned after use for each patient. This may be done by thorough washing in pure water and soap, then wipe with a cloth or chamois skin, slightly moistened with some disinfectant—a solution of salicylic acid. A very good solution for this purpose may be made as follows: One ounce water; twenty grains borax, and twenty grains salicylic acid. This can be used without offensive taste or odor. The common sense of refinement, it would seem, should dictate to everyone the importance of absolute cleanliness. But this, in a general way, is not enough; attention should constantly be given to the fact that harmful agents are often present in an invisible form, and only by the utmost care can the best condition be maintained.

It may be said that these suggestions are superfluous. Well, in some instances they may be; in many others I know they are not, and some will never reform by anything that might be said; but there are some—a few—who will regard good counsel, and the young more particularly will accept and adopt new and better ways.—*Dental Register.*

THE ETHER DOUCHE OR LAVEMENT FOR LOCAL PAIN.

BY C. H. HUGHES, M.D.

A paragraph in the *Medical Times* of the 10th of February, 1883, referring to the ether spray in the cure of neuralgia prompts me to call attention to the fact that ether lavements have been employed by me in all painful surface affections for many years, whether with or without inflammation, but mainly in neuralgic affection. In facial, sciatic, and cervical neuralgias, no remedy except galvanism has given me such signal satisfaction during the past ten years of my practice in neurology. These lavements will cure some cases of recent origin; they will relieve all. I use the ether douche, not the spray, and Dr. McLane Hamilton is in error in his reference to my treatment of the intense pain of cerebellar abscess by ether spray. In the case referred to, which I reported in 1877 (*Journal of Mental and Nervous Diseases*, October), I simply poured the ether on the head so copiously as to benumb all sensibility and restore a state of ease and mental tranquility to a patient absolutely maddened with pain.

The ether douche or lavement in trigeminal neuralgia is quite uncomfortable to many persons, on account of the unpleasant impression of the ether on the nose and eyes; and when applied to the supra-orbital region great care should be taken to keep the ether out of the eyes by laying the head back and covering the eyes with a handkerchief. If the ether should get in the eyes, the patient should be cautioned not to rub them, but simply to sponge the eyes with cold water and wait patiently till the ether evaporates. The same is true in regard to ether getting in the ears.

There is no need of a spray apparatus for ether. It should be used freely in quantities adequate to the effect desired. It should be poured on the part till relief is obtained. I apply it in this way to the motor regions of the head and down the spine in general or unilateral chorea likewise.

No better agent can be employed for cephalalgia and for acute muscular tremor than the ether douche or lavement. Of late years I have heard of the ether spray, but the ether douche or lavement has been with me a most common and efficient agent in the local therapy of pain, especially superficial pain, for more than a decade, ranking with electricity, and better than mechanical vibration.—*Medical Times.*

Notched Teeth.—M. Magitot has lately called attention to the notching and erosions of the teeth in inherited syphilis, and on the relations of this disease to reckets. He thinks that the notch is not characteristic, and states that it is never found in some races frequently affected with syphilis, such as the Japanese and Peruvians. According to Magitot, not only inherited syphilis, but also serious troubles of nutrition may cause diminution in the number and size of the teeth, or delay in the period of their eruption, but never erosion. Most frequently the latter is caused by certain nervous affections of early childhood, such as infantile convulsions, especially when accompanied by general debility.—*Medical and Surgical Reporter.*

The Dental Practitioner

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OBITUARY.

THOMAS L. BUCKINGHAM, M.D., D.D.S.

Died—At Philadelphia, Sept. 4th, 1883, of softening of the brain, Thomas L. Buckingham, M.D., D.D.S., in the sixty-seventh year of his age.

Thomas L. Buckingham was the oldest of nine children. He was born in New Castle County, Del., on the 9th of March, 1816. At the age of seventeen, after having received an ordinary schooling, he desired to learn the trade of machinist, but his father, being a miller, and Thomas the oldest son, desired him to assist him in the mill. This he did for a period of three years, at the end of which time his father died. Shortly before his death, however, he had purchased a farm, intending to remove his family thereon, but death intervening, the widow undertook to execute his plans, and Thomas became the head of the family and a farmer.

A few years of farming sufficed for him, when his ambition again changed the channel of his life. Thinking his fortune lay in the direction of commercial business, he entered upon the dry goods trade in Wilmington, Del., with his uncle, but this in a short time also proved unprofitable. During all this time he was no doubt undergoing, through his struggles and failures, a preparation for his higher calling; receiving his lessons of patience and perseverance through practical experience, that he might in after life instil into the minds of his many students the same principles he had bought so dearly.

While engaged in the dry goods business he came in contact with Dr. Reynolds, who was practicing dentistry at that time in Wilmington. Then it was that the old fire was rekindled within him, which was started with his desire to learn the machinist's trade; though almost quenched by his father, there was enough yet remaining to urge him to the study of dentistry, in which profession he saw abundant opportunity for the exercise of all his mechanical skill and ingenuity.

Under the tuition of Dr. Reynolds he acquired all the then known art of dentistry, or enough, at least, to warrant him in starting for himself.

He shortly afterwards opened an office in Wilmington, and in 1846 came to Philadelphia, entering into a partnership with Dr. Lee, though only for one year.

A few years subsequently he was chosen by the State Society as one of the five gentlemen to be recommended to the Board of Trustees for the Professorships in the Philadelphia College of Dental Surgery. This institution was opened in 1852, Dr. Buckingham occupying the chair of Mechanical Dentistry. Four years afterwards, some difficulty arising between the Faculty and the Board of Trustees in relation to the granting of honorary diplomas without the consent of the Faculty, the college was abandoned.

The old Faculty then made application to the Legislature for a charter to establish a new school, and in November, 1856, they entered upon their duties as Faculty of the Pennsylvania College of Dental Surgery, which institution has ever since continued under the same name, and with which Dr. Buckingham has been identified from its incorporation until his death. He was Dean of the Faculty from '57 to '61, and from '65 to '72. He graduated in medicine in 1851 from the Philadelphia College of Medicine, and in 185 he received his dental diploma from the Baltimore College of Dental Surgery In 1860 he served as President of th

American Dental Convention, and in 1874 as President of the American Dental Association.

Professor Buckingham has been a faithful teacher for thirty-one years, endeavoring to teach to all who came to him those plain truths as he had received them, and instilling into the minds of his students not only a knowledge of dentistry, but those many virtues of a true manhood which in him were as numerous as the gray hairs of his head.

He was particularly popular with his classes, and we doubt if any graduate of the Pennsylvania College has aught but good to say of his dead Professor. His popularity was by no means confined to his students; few members of the dental profession were more widely or favorably known, and in our conventions and professional gatherings his genial face and frank, open expressions of his honest convictions will be sadly missed. In his social life he had many admirers. He was a man looked up to and respected by all. He was a prominent member of the Masonic fraternity, where he had hosts of friends who mourn his loss.

THE next meeting of the Ohio State Dental Society will be held at Columbus, commencing the last Wednesday of October, to continue for three days.

J. H. WARNER, Sec'y,
Columbus, Ohio.

TO MAKE RUBBER-PACKING AIR AND STRAND TIGHT.—The packing is brushed over with a solution of powdered rosin in ten times its weight of stronger water of ammonia. At first this solution is a viscid, sticky mass, which, however, after three or four weeks, becomes thinned and fit for use. The liquid adheres easily to rubber as well as to wood and metal. It hardens as soon as the ammonia evaporates, and becomes perfectly impervious to liquids.

THE propounders of certain queries which appeared in last month's issue are asked to exercise a little patience. We will try and present satisfactory answers next month.

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A CASE OF POISONING BY BELLADONNA —RECOVERY.

BY B. F. NICHOLLS, M.D., 719 SPRUCE ST., PHILADELPHIA.

Mrs. C., aged 45 years, on Sunday, August 5th, drank a pint of coffee into which some kind friend had surreptitiously placed some bella-donna leaves. Soon after she had swallowed the coffee symptoms of poisoning set in. I did not see her until two and a half hours had elapsed. When I arrived, the following symptoms were present:—tingling in every part of the body; burning and itching of the skin; subsultus tendinum very marked in upper and lower limbs and neck; great numbness, dryness, and constriction of the throat; deglutition very difficult; tongue dry and swollen, turned up at the edges, and protruding slightly between the teeth; the teeth chattered as if she had a chill; great thirst, but could not swallow when water was given; retching continuously; pupils widely dilated, eyes exceedingly sensitive to light; pulse slow and weak; considerable eruption on body and limbs.

The treatment consisted of morphia sulph., hypodermically, one-quarter grain at first and one-eighth grain in fifteen minutes. After the first dose my patient began to improve, and after a few doses the symptoms subsided entirely, leaving her very much prostrated, when I ordered brandy. I kept her under the influence of morphia for twelve hours, giving one-eighth grain every two hours by mouth. I also kept up the brandy for the same length of time. My patient entirely recovered, without any trouble remaining.

HISTOLOGICAL INVESTIGATIONS UPON THE ACTION OF ARSENIOUS ACIDS ON THE NERVE FIBRES OF THE PULP AND THE DENTINAL TISSUES.

BY DR. C. F. W. BODECKER.

During the session of the American Dental Association at Niagara, Dr. Bodecker laid before its members some of the results which he has obtained in his researches upon the action of arsenious acid on the tissues of the teeth. He said that the work had not been completed, but as the interest in this question was so great, he did not hesitate to communicate the results in part. This interest is evident from the protracted dispute concerning the action of the poison on the pulp alone, and the question whether it reaches further. Dr. Clows, he said, had been impressed by an unexplained phenomena; namely, that an application in the dentine showed action also in the pulp, an action similar to that induced by an application to the pulp directly, differing only in time. In 1869, Dr. Witzel, of Germany, studying the diseases of the tooth, observed a partial action on the pulp, the remainder being unaffected. In Germany this is largely accepted, whereas in this country it has been denied by many.

These and other instances from literature have influenced Dr. Bodecker in taking up the present line of investigation. But more especially was it his experience in sixteen cases in his own practice, which led him to inquire into the details of the process. Eleven of these cases he was enabled to follow up, and in all the pulp stumps had died.

Dr. B. acknowledges that the human subject is the only final field of research, but from obvious reasons he has experimented also upon the teeth of animals. The drill holes were sunk into the dentine so that the poison was not in immediate proximity to the pulp. The teeth were examined after different periods of time, and the tissues were so treated by a preparation of osmic acid that the changes from the action of reagents could be excluded.

The results were truly striking, and we shall mention them as briefly as possible, referring the reader for more details to a future time, when the investigations shall have been completed and published in full in this journal.

I. The pulp showed to the naked eye all symptoms of active inflammation.

II. Under the microscope the nerves appeared so changed that the myeline was broken up into small portions and granules.

III. When the action had been prolonged, there were found minute globules colored black by osmic acid, outside the nerve fibres, scattered in the surrounding tissue; very probably a symptom of complete destruction of the medullated nerve fibres.

IV. In ground specimens (decalcification was in no case resorted to) the dentine was affected, starting either from the point of application, or radiating from different points of the pulp chamber. These places could be distinctly recognized by the naked eye as being intensely colored by the osmic acid.

V. The canaliculi were unequally enlarged, as were also their transverse offshoots and connections. They were filled with black osmic-acid-colored masses, which appeared as if they were the broken up and enlarged contents of the canaliculi; (the Tomes fibres).

VI. The basis-substance is narrowed in those places where the canaliculi are enlarged. Certain peculiarities in coloring (picro-carmine) seem to indicate that the lime salts have been, more or less, extracted.

Dr. B. demonstrated these points at the blackboard, and showed the specimens under the microscope.

He called attention to the similarity of these changes to other diseases of the tooth, but distinctly stated that they must not, therefore, be thrown together, as the clinical aspect must also be brought into consideration.

He concluded by saying: "I am well aware that in very many cases the effect of the arsenic has apparently not been so bad as might be expected, but on the other hand you may all remember severe cases of local, or even constitutional disturbances, which could not be traced to any other cause than that of a dead tooth which had been treated with arsenious acid. Be all this as it may, the question is certainly in order whether, in view of the serious consequences, we are any longer justified in destroying pulps by the use of arsenious acid." —*Independent Practitioner*.

Dr. C. C. Abbott reports as among many interesting "finds" which he discovered in the Trenton gravels, after the heavy rains of last September, a wisdom tooth of a man, which lay in the undisturbed gravel within a dozen feet of the spot where a mastodon's tusk, described in Prof. Cook's "Geology of New Jersey," was found some years ago, buried almost as deeply as the tusk, and in a similar situation and among similar surroundings. This, he believes, proves the contemporaneity of man and the mastodon. He also describes some Argillite spear-heads found in the gravels, more finished than the palæolithic, ruder than the polished implements, which he is disposed to class as the handiwork of the direct post-glacial descendants of palæolithic man.—*Popular Science Monthly*.

The speed of an electric spark, traveling over a copper wire, has been ascertained by Wheatstone to be two hundred and eighty-eight thousand miles in a second.

THE MUSCLES OF THE SKIN.

In certain animals a very abundant muscular layer is developed immediately beneath the skin, so that they possess the power of wrinkling it and shaking it in order to rid themselves of dust, insects, etc. In man this is found only in a few situations and moderately developed; but the human skin possesses within its structure a certain amount of muscular fibres, which are of special importance in the present study of the sebaceous glands.

These muscles in the skin belong to the class of what are called smooth or unstripped muscles, which differ from those composing the mass of muscles of the limbs, etc., in that they are not controlled by the will; they are therefore called involuntary muscular fibres. These are, of course, extremely small, but are quite readily seen by the microscope. They extend from near the end or deeper portion of each hair follicle, in a slanting direction, and terminate or are inserted near the outer surface of the corium of the skin. The name given to these muscles is *arrector pili*, or, in the plural, *arrectores pilorum*, so called because when they contract they cause the hair to stand more or less erect and to protrude a little from the skin; thus, in the cat, when excited or enraged, all the hairs become erect and bristling. The action of these muscles may be well observed in man in what is called "goose skin," when, from exposure to cold, or sometimes from emotional causes, the skin may be observed to be thrown into numerous projections. This condition may be readily observed on entering a warm bath; if the portion not immersed gets a little chilled, and if the surface be yet dry, the fine hair on the arm may be seen to rise and stand more or less erect, and, as the condition subsides, the masses of hair sink to their former position, all together. This may be repeated several times, all rising and falling together, like a field of grain under the wind. It was to this action that Shakspeare referred in the utterance of the *Ghost* in "Hamlet," in the lines:

> "I could a tale unfold, whose lightest word
> Would harrow up thy soul, freeze thy young blood;
> Make thy two eyes, like stars, start from their spheres;
> Thy knotted and combined locks to part
> And each particular hair to stand on end,
> Like quills upon a fretful porcupine."

But these muscles have another action which is very important, and that is the emptying of the sebaceous glands. These latter structures have no muscular coat of their own, and their secretion, which is constant, oozes out upon the surface. Now where there are large hairs, as upon the scalp and beard, these muscles more or less embrace the sebaceous glands, and by their contraction they empty them from time to time, and by this means prevent an accumulation or prevent the openings from becoming clogged.

On the face, back and chest, however, where we have acne development, and where these glands are apt to become plugged up with the black specks so often seen, these muscles are almost entirely absent, and the secretion, having no particular expulsive force, readily becomes impacted, and, if at all hard, fails entirely of gaining exit.—*Manufacturer and Builder.*

PLASTER OF PARIS may be prepared in three ways to form a hard casting capable of taking a high polish. Mixed with a solution of borax, then rebaked, powdered, and mixed with a solution of alum, it forms Parian. Mixed with solution of alum, rebaked, powdered, and mixed with alum solution, it forms Keene's cement. Mixed with solution of sulphate of potash, rebaked, powdered, and mixed with alum solution, it forms Martin's cement.

ADMINISTRATION OF ANÆSTHETICS IN VIENNA.—The Vienna correspondent of the *Maryland Medical Journal* says that the administration of anæsthetics is conducted there in a way that "would make the Philadelphia MEDICAL NEWS turn purple with indignation. In some clinics pure chloroform is used, in others a mixture of chloroform three parts, ether one part, alcohol one part. The anæsthetic is poured upon a piece of flannel, which is stretched over a wire frame, which probably allows a sufficient admixture of atmospheric air, but no attention is paid to the position of the patient, the head and thorax being placed high or low according to the fancy of the operator, and it is no uncommon thing to see the administration being pushed with the patient in the upright position and vomiting. A few days ago I saw a boy suddenly become pale and pulseless, and it was only after the most vigorous artificial respiration, with galvanism, enveloping the legs with Esmarch's bandage, injections of ether, elevation of the lower limbs, forcible injection of cold water against the pericardium, and brisk flagellation that he was eventually restored to life."—*Medical News.*

A FATAL SPIDER BITE.—Chancellor Carroll, of South Carolina, died on August 24th, at Cæsar's Head, from erysipelas following the bite of a spider. About a week before, this eminent jurist was walking in the woods about the famous mountain peak, and his face came in contact with a spider web, which was suspended between two trees. The spider alighted on his chin, near the under lip, the Chancellor brushed it off with his hand, but was bitten by it in the meantime. He was attended in his illness by Dr. F. A. Miles, but after a week's suffering the distinguished jurist succumbed to the results of the spider bite.—*Medical News.*

CEREBRAL ORIGIN OF MENTAL DECAY.

Hard-working students force the growth of their intellectual capacity at the expense of their teeth. At all events that is the belief of Drs. Sitherwood and Hanlan, who have written on this matter in a recent number of the *Journ. de Medec. et de Chir. Prat.* It is said that the teeth undergo a rapid alteration in students who labor long, and that on the cessation of the hard work the dental disease dies away. We are quite prepared to admit that there may be some truth in these assertions. The teeth have been known to become loose and drop out apparently as a direct consequence of that protean disease, tabes dorsalis. But it is probable that even truthful Nature will be found to draw the line at the wholesale accusation of her nervous system. Why, we should have thought that the dental arches were as much without the pale of action of the much impeached mental organs as the nails and the skin. We have not heard or read whether the epithelial desquamation or the rate of growth of nails is more rapid or more perverted in beings of much cerebral action, as compared with those of their fellows who work less with their quiet brains. Explanations of this alleged fact concerning the teeth have been mentioned by a recent writer in *L' Union Medicale.* It is thought that the brain, when overworked, steals all the phosphates, and leaves none for the teeth, or else that a deterioration of the general health is brought about by the excessive study. Now, it is certainly a matter for consideration whether excessive mental work per se, is capable of inducing serious disease. Side by side with natural mental life there probably goes on more or less unhealthy action, which bears pretty much the same relation to the former as the latter does to the friction on a steam engine. What is friction in the engine is anxiety or worry in the man. It is the friction which destroys the physical basis of the engine, and it is the anxiety that wears out the material structure of the man. So, then, all cerebral action is accompanied by the inevitable residue of anxiety or whatever else we choose to call it, but this residue may be lessened by various circumstances, and may be augmented by many conditions; and so it is that of two men of equal original health and equal original powers, but of dissimilar environment, the one succumbs because the heat of frictional anxiety has consumed him, the other lives longer because the obstacles to his vital acceptation of the first law of motion have been reduced to a minimum.—*The Lancet.*

Salicylic Acid in Canned Fruits and Vegetables.—It being known that salicylic acid is used in foreign countries, to a considerable extent, as a preservative agent in articles of food, and that the quantity used frequently exceeds the amount allowed by law, Mr. J. D. Denny has recently examined twelve samples of different canned fruits, all of which were put up by American firms, in order to ascertain whether, and, if so, to what extent, that preservative is used in this country. After a thorough examination, he was unable to find any trace of salicylic acid.—*Physician and Surgeon*, August, 1883.

Every Man His Own Dentist.—A newsman at Jamaica tied a string around his aching tooth, and just before a train left the station he tied the other end of the string to the rear car. When the train started he ran along behind it until it had gathered headway, when he dropped on his knees. The train carried the tooth to Long Island City. An expression of pain on his face was followed by one of delight when he knew the cause of his trouble was gone.—*N. Y. Sun.*

SCIENCE AS A DETECTIVE.

The microscopical examination of the scrapings from under Rose Ambler's finger nails has probably put the officers on the trail of her murderer. Prior to this suspicion pointed in other directions. But this examination is believed to prove that a white man, with sun-browned hands, one of which was severely scratched, was her murderer. If this shall prove correct, as now seems likely, it illustrates the importance of science as a detective of crime. Indeed, hardly a case of concealed murder occurs where science is not called on to unravel some of its mysteries. Its accuracy gives it public confidence. What it does determine is clearly established. In cases of murder, the great necessity, in most instances, is to get the right clue; the gathering of testimony is not then seriously difficult. What has been revealed by the microscope has fastened suspicion on Lewis. At once many facts are brought out that before were only casually observed. He was noticed to have had a scratched hand, which, so far as possible, he kept concealed. A motive for the murder is unexpectedly discovered, and many circumstances which may ultimately fix the crime on him are brought to light. And all this is the outgrowth of science acting as a detective. Criminals have become very astute, but with science and the press as detectives they are generally caught.—*Evening Call.*

A DENTIST in Pittsburg has discovered that river water causes the teeth to decay and crumble. Many persons may be found who never drink river water, but their abstinence has never been ascribed to their knowledge of this fact. The general opinion has been that they preferred other beverages, when in reality it would appear that they were only following an instinctive impulse to preserve their teeth.

DENTAL FORMATION IN THE NASAL CAVITY.

A gentleman had for some time experienced a slight obstruction in one nostril. Examination revealed the presence of a hard, roundish, movable body, which was attached to the floor of the nostril about one inch from the anterior opening. It was removed by the snare, and was found to be a perfectly formed canine tooth, a little over an inch in length. The anterior portion was covered with enamel, and its little root presented a layer of cartilage. There was no bony alveole. The patient had all his teeth.—*Deutsche Med. Wochenschrift.*

ILLUSTRATING THE POPULAR IDEA.—Rev. Dr. Miner tells a good anecdote, illustrating the popular idea entertained about the three leading professions. He says an anxious father consulted a seer to find out, if possible, the destiny of his three boys. To his great dismay the man of knowledge declared: "One will be a murderer, another a falsifier, and the third a pauper living on the town." As the good father began to bewail his lot the seer answered: "Do not mourn; those are the common lots of men. Your first son will be a doctor, the second a lawyer, and the third a country clergyman."—*Boston Globe.*

THE second annual meeting of the Central Illinois Dental Society will be held in the City Hall, at El Paso, Ill., Tuesday, Oct. 9th, 1883. Numerous papers upon subjects of interest are promised by well known members of the profession. Accommodations can be had at the Campbell House for $1.50 per day.

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"Nickolds" Improved Soft,	3.75	14.50
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A Job lot of H. C. COYS PATENT NOISELESS HAND LATHES with two Chucks, each	3.00
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Two CASES, containing OPERATING INSTRUMENTS and MECHANICAL TOOLS, a list of which will be furnished on application, very cheap at.	60.00
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Samson Rubber	per pound	3.00
Extra Elastic Rubber,	“	3.00
Bow Spring “	“	3.00
Whale Bone “	“	3.00
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“ “ 1 and 2, (Weighted)	“	4.00
“ Black “	“	2.50
English Pink Shade No 1	“	10.00
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Gutta Percha Base Plate	“	2.50
Acme Cement	per package	1.50
Weston's Insoluble Cement	“ “	2.00
Caulk's Diamond “	“ “	1.00
Pierce's Phosphate of Zinc	“ “	2.00
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Caulk's Hydraulic Pebbles	“ “	3.00
Houghton's "Os Artificial"	“ “	1.00
S. S. White's Dental Engine—14 points		50.00
Johnson Bro's “ “	“	40.00
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Gilling Twine	½ ounce skeins	.10
Floss Silk, plain	per dozen	1.25
Rubber Dam, Medium	per yard	1.75
“ “ Thin	“	1.25
Shellac Varnish	per bottle	.25
Sandrach “	“	.25
Liquid Silex and brush	“	.25
Re-distilled Mercury	per ¼ pound	.50
Bibulous Paper (Japanese)	“ 100 sheets	.50
Absorbent Cotton	2 ounce pkgs	.20
Spunk	per ounce	.20
Yellow Impression Wax	½ lb Boxes	.38
“ Base plate “	“	.50
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Lands Air Chambers	per dozen	.50
Anchor Flasks (Iron)..		1.00
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Star reversible “		1.25
Automatic Mallets, Snow & Lewis, N. P.		10.00
“ Plugger points	per dozen	3.50
Excavators (Blued handle)	“	2.00
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Pluggers, Chisels, Scalers, and Burnishers 3-16 in. blued handles, per dozen		4.00
Barbed Nerve Extractors	“	.75
Foil Shears 8 inch Japanned Handle		1.00
Foil Carrier and Plugger combined N. P.		1.25
Foil Tweezers	“	.60
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Pocket Lancets, (1 blade), Shell Handle		.75
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Lancets, (fixed blade), Ivory Handle	.75
“ e “ Ebony “	.50
Chip Blowers, Rubber bulb.	1.00
Syringes, Hard Metal, N. P.	1.25
Mouth Mirrors (Plain) Ebony Handle	1.00
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Nerve Paste, per bottle	.35
Annealing Lamps, Nickle-plated tops	.40
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Bill Heads No 1 per 100	.60
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Robinson's Fibrous Textile Filling and Lining, per ½ ounce	2.50
Felt Cones.	20 and 40
“ Wheels	15 “ up
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Rubber Dam Forceps, per pair	2.50
Extracting “ N. P. “	2.25
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Star Rubber Dam Punch, N. P.	1.50
Rubber Dam Weights “	.50
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Hard Rubber and Corundum Disks	.25
Corundum Disks, per dozen	2.75
“ Points, not mounted, per doz	.75
“ “ “ “	1.50
Corrugated Soft Rubber Disks, each	.10
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Wood Polishing Points, ass'd per 100	1.25
Rubber Scrapers and Chisels, each	.25
“ Files, Steel Handles 4½ inch	.20
“ “ “ “ 5¼ “	.25
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“ “ Double End 7½ “	.28
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“ “ Fish belly 7½ “	.42
Double End Rubber Rifflers, each	.20
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Plug Finishing Files, Double End, per doz	2.40
“ “ “ “ “ “	2.00
Biscuspid Files, per dozen	2.00
Molar Files, Double curve, Feather edge	.30
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“ “ “ single “	.18
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Mercury Holders, Double top	.50
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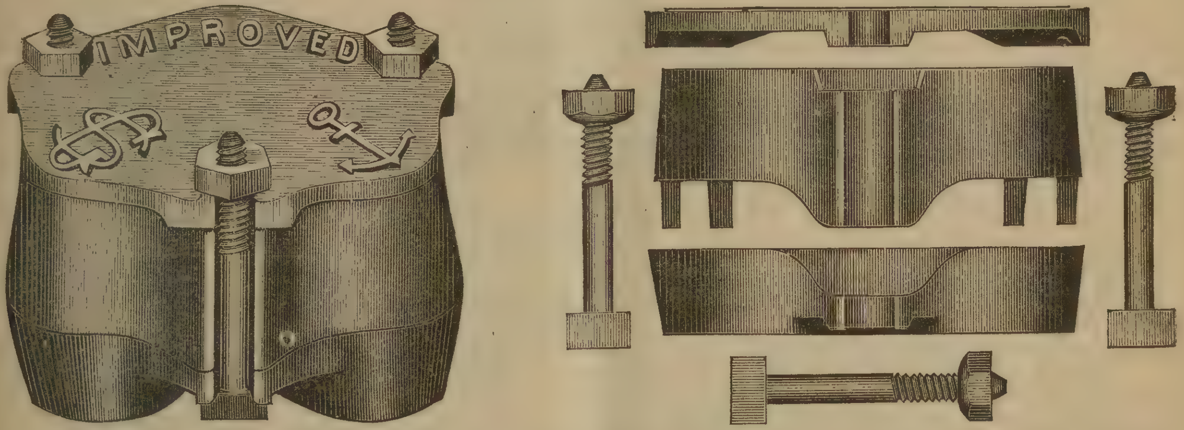

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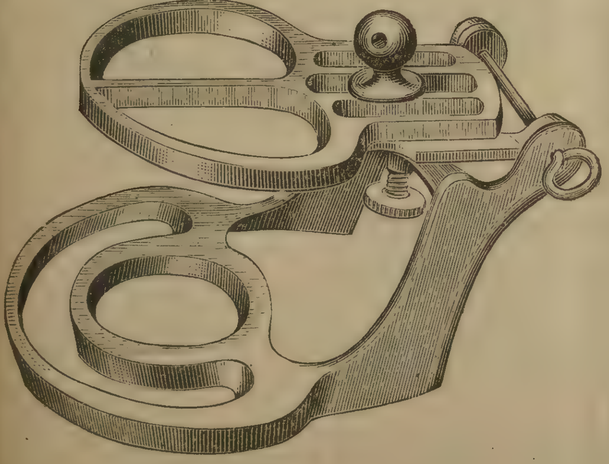

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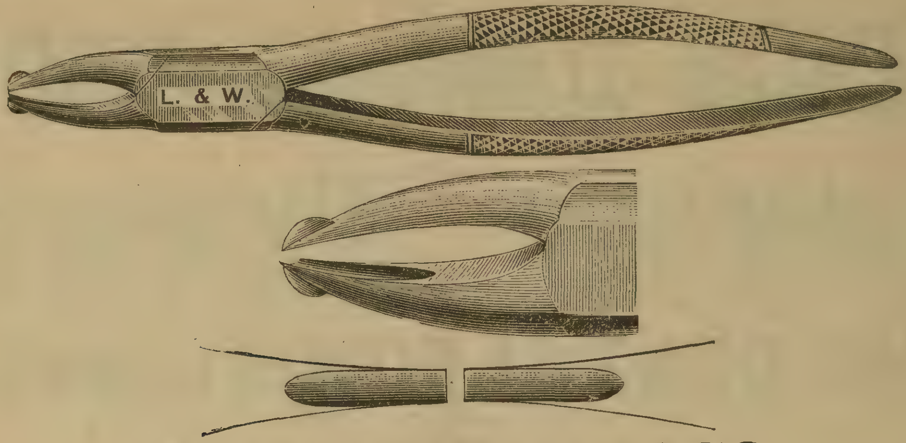

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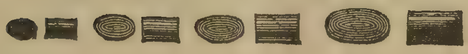

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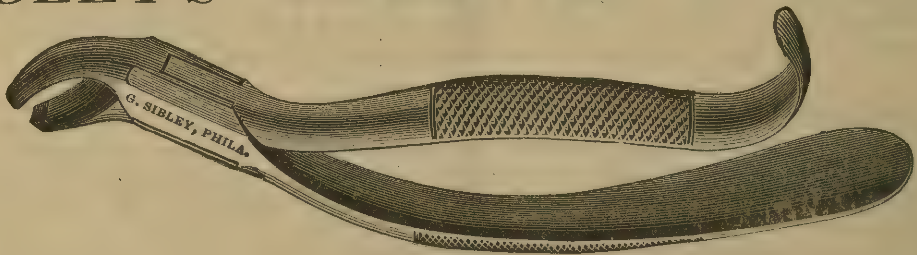
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OCTOBER 15th, 1883. VOL. 1.—NO. 10.

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A MONTHLY JOURNAL.

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A CROWN FOR THE ANTERIOR ROOTS OF EITHER DENTURE.

The practice of extracting so many good, sound roots, has become so general that it seems to me some plan must be brought to our aid whereby we can make these useful. Our patients have, for years past, been made to submit to wearing a few teeth, or, perhaps, only one tooth upon a plate, sometimes covering the roof of the mouth because the natural crown was lost, and we could not attach an artificial one upon the root successfully, and we advised them to have it extracted as our only remedy in the case. How much more satisfactory to us and less painful to our patients would it have been to have attached a crown in the manner I shall describe hereafter, and have saved our patients so much inconvenience and avoided marring the features we ought to adorn. The only methods we could resort to to attach artificial crowns to roots, until recently, were either by wood or metal pivots. In my experience the most objectionable was the wood pivot, on account of breaking the pivot by mastication, and the rapid decay of the root around the pivot; but by no means the east objection was the disagreeable breath which must be an unavoidable concomitant of this practice. I always preferred using the metal pivots for attaching crowns n this manner, but even these could not be inserted and a crown placed thereon so as not to be exposed to the action of the fluids of the mouth, and, consequently, the walls of the cavity were gradually softened and broken down, and, in a few years' time, larger pivots were required, until, finally, the root was rendered useless for attaching crowns by this method. The profession has given us many different plans for attaching crowns to roots within the last few years, to mention which would be a waste of time in this paper, as most dentists are familiar with them. But these have been more or less difficult, and attended with the same results as mentioned above. No method, to my knowledge, has proven so secure, more satisfactory to the patient and operator, less offensive and easier of manipulation than the one which I am about to describe. Many, perhaps, are attaching crowns in the same manner, therefore I do not claim anything new beyond my plan to enable us to have a crown for the roots of the incisors and canines, made so that the strength is not impaired from having the crown the shape of the natural one. The all-porcelain crown for these roots is not strong enough to resist the strain to which they are subjected in the process of mastication, because, to have them the shape of the natural ones, so much must be cut away from the base, which leaves little to support the crown, where the most strength is needed. I think that my plan for making it is superior to any yet produced, especially for the incisors and canines. By having the whole palatal surface of the porcelain protected by the metal, gives it greater security. The pin-hole can be made larger than in the all-porcelain crowns, and still have more strength. No metallic dies are required in making them. The rubber dam need not be applied. The practice of driving up with a hammer is done away with, as used in forcing up crowns attached by pivots to their place. This practice, if carried to excess, is apt to cause inflammation and suppuration of the soft tissues about the apex of the root. Many more advantages, which this method has over others, could be mentioned, but it is not necessary.

To make the crown and fit it accurately, it is necessary to have an impression of the space between the teeth and the base of the root, also an articulation. After this is had a plate tooth, of good color,—preferably one with cross-pins, since the part above the pins can be hollowed out—should be ground to fit upon the model. A backing of gold should then be riveted and soldered to it, and a plate of gold—No. 23 in thickness—bent and shaped so as to correspond with the palatal surface of the adjoining teeth, at the same time forming the pin-hole. Both the backing of the tooth and the inside of the band should be ridged, to make a catch for the amalgam. This being done it should be carefully removed from the model, invested in sand and plaster, soldered, finished up, and the crown is ready to be placed upon the root. Care should be taken that the size of the neck of the crown should be exactly the size of the base of the root. The nerve of the tooth, if alive, should be destroyed, and undergo the necessary treatment, as a permanent and successful operation can not be performed if the pulp is living.

The preparation of the root previous to the attachment of the crown should be, first, to cut away the jagged remnant of the crown, if there be any; then the exposed surface of the root should be ground smoothly down with a small corundum stone to about half a line below the margin of the gums, giving it a slight concave appearance, so as to accommodate the neck of the crown which is to rest against it. All decomposed dentine should be removed, the canal enlarged, the inner walls roughened so as to retain the filling material and prevent it from being withdrawn. The walls of the canal at the orifice of the root should be beviled outwards with a sharp bur, so that the amalgam may lap entirely over the edge and protect this important part of the root from the action of the secretions of the mouth. This plan will leave no joint on the natural root.

After the crown has been fitted to its place on the root, the hemorrhage must be checked, the canal thoroughly dried with spunk, and the surrounding parts kept dry with a napkin, then force up to the apex a small pellet of gutta-percha, after which the length of the pin, made either of gold or platina, and jagged, can be had by placing the crown on the root and the pin bent to suit the position of the crown. Then fill up the root with amalgam, press up the pin tightly to position, and pack amalgam around the base of the root; the crown may now be pressed in position on the root, and the amalgam packed around the remaining part of the pin through the pin-hole in the crown. After it has become solid, gold-foil, if desired, may be packed over the surface of the amalgam, which, when completed, has the appearance of a contour filling, a perfect restoration of the missing organ, nothing repulsive to the sight, and absolutely clean.

E. Slegel.

No business can be sustained without promptness. Be careful how you make appointments, and then fulfil them.

METAL CASTINGS FOR DIES.

In the last number of the DENTAL PRACTITIONER I gave my method of preparing the molding sand, and explaining the necessary manipulations in procuring a good mold for the purpose of pouring the melted metal. The mold prepared according to these directions needs no drying over a fire or smoking, and is now ready for the pouring. If the metal is not ready to pour it had better be covered, to keep it from drying. If it becomes dry on the surface of the mold, the pouring of the melted metal over it will push away some of the prominent parts on the face of it, and the resulting cast will be imperfect; in fact, entirely spoiled.

The necessary points to keep in mind are, to have porous sand, pack just close enough to hold together, and not to let your mold get dry on the surface. I have not had any success with marble dust or mixing sand with oil. Water is the cleanest and best for me.

Having obtained a good impression in the molding sand, the next thing is to fill it with a metal that is best adapted for the purpose you want it.

In making an entire upper suction plate I use two sets of dies; the first set of zinc with lead counter-dies, to partly stamp and shape the plate; the second, or finishing set, is made of Babbitt's metal, without air chamber, and type metal counter-die, provided the ridge of the gum is hard or yields but little. As Babbitt's metal contracts but very slightly, a plate stamped over it fits a hard and unyielding gum very firmly. If the gum is soft, I use zinc and lead for the finishing set of dies, which frequently answer my purpose without a resort to other means. The contraction of zinc in cooling is of great advantage when the plate is for a soft gum.

The Babbitt metal I have bought has been invariably poor, coarse and grainy, oxidizing very rapidly, and, after two or three meltings, becoming useless. I was compelled to manufacture it myself, which is a nice operation and requires careful watching throughout the entire process. The usual formula of tin eight parts, copper one, and antimony two, is the one I mostly use. Melt the tin first in a cast-iron ladle, and heat up to a cherry red; the copper in the form of nails is then added; when melted, stir well with an iron rod, or the loose ladle handle, until thoroughly mixed; after cooling a little add the antimony; this requires frequent stirring, and must not get too hot.

This formula remains essentially permanent through a dozen or more meltings, provided it is not overheated, and is used as soon as it becomes fluid enough to pour smoothly.

A cast of Babbitt's metal or zinc should never be less than an inch and a half in thickness, and for large, broad mouths, should be two inches at least. Care must be taken not to keep *all* your casts in one place. The Babbitt, with its counter-die, should be kept in a box by itself, so as to avoid mistakes in taking one, when you want the other; also use a separate ladle for each of the metals.

Type metal is the proper counter-die for a Babbitt cast; any other would require too much heat, and sometimes unite with the cast, even when washed over with chalk.

W. R. HALL.

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AN EXAMINATION OF THE CONDITION OF THE TEETH OF CERTAIN PRE-HISTORIC AMERICAN RACES.

BY DR. W. C. BARRETT, BUFFALO, N. Y.

In the consideration of the Etiology of Dental Caries it is necessary to inquire into its history, because a disease which is entirely modern in its origin must necessarily be due to some changed condition under which the human race is now laboring, and this new situation being duly examined may afford a clue to the altered pathological state of the teeth of the present day. It has been urged with much ability and seeming consistency that dental caries is due to the changed habits of man; to our modern artificial methods of living; to an unnatural diet; to improper preparation of the food; to the removal of necessary ingredients from otherwise wholesome sustenance; to vicious nutrition through improper habits; to a perversion of neural currents through an unnatural mode of life; in short, to a departure from the state of nature in which man was made to live. If this be true, we have only to go back and examine the skeletons of those who were guilty of none of these things; who lived directly on the breast of mother nature; who ate their food with little or no preparation by fire; who devoured all there was of it without the removal of certain portions through the aid of machinery; who were not subjected to the modern abominations of corsets, swallow-tailed coats, stove-pipe hats, or other articles of modern clothing; who were free from the poisonous fumes of box stoves and modern furnaces; upon whom the winds of heaven blew untempered at all seasons of the year; who knew no doctors, drugs or dosing, except the simple remedies provided by a bountiful nature; who, to sum up all, were delivered from the destroying influences of a modern civilization; if this be true, I say, the remains of the happy people who lived in the blessed time of pre-civilization will indicate their freedom from the diseases which are so destructive to-day.

In the summer of 1882 I chanced to visit the Peabody Museum of Archæology, at Cambridge, Mass., and was so impressed by what I saw there that I made the firm resolve to return when I had more leisure and make a more careful study of the archæological treasures therein contained, with a view of obtaining more light upon the vexed question of the etiology of dental diseases. Accordingly, in June last, I went to Cambridge and did what I could in the limited time at my disposal, and I propose in this article to give the results of my visit. I found, however, that I had devoted but a small portion of the time necessary to even a cursory examination of the collection. I propose at some time to continue the work, and hope to be able to present something yet more definite and conclusive.

Everything connected with the subject which I wished to investigate was placed at my disposal by the courteous curator, Mr. F. W. Putnam, who is so well known in the ethnological world. I found that I was treading virgin soil, for although this museum is situated at that great educational centre, Cambridge, no one had yet attempted to make any study of the teeth there.

The upper floor of the museum contains nearly two thousand skulls, and the collection is especially rich in the remains of pre-historic American races. There are many skulls of moderns, but my attention was chiefly directed to those of the North American Indian, to those of the ancient mound-builders of the Tennessee region, to skulls found in ancient Mexican caves, to some from California, to a large number obtained from ancient burial places near Ancon, Peru, to some other South American skulls, and to a collection of early Sandwich Island skulls.

Besides this, I examined, as far as time permitted, some Roman skulls of the early Christian period.

It will be observed that with the exception of the Roman skulls, and perhaps a few of the Northwestern Indians, the people of whom these bones were relics lived before the time of contact with the whites, and were therefore pre-historic. They were not contaminated by the vices of our modern civilization, but lived a life that was as near the typical natural one as the most conservative fogy could desire. Some of them had a climate that was as near perfect as this globe affords. Nearly all of them lived in regions that furnish the most prodigal display of natural nutritious foods. The diet of some must have been almost exclusively vegetable, while the North American races existed mainly by the chase, and their food was mostly animal. Some of the races lived in huts formed by the branches or bark of trees, some in natural or artificial caves, while others had their habitation in a snowless and rainless region, and hence needed no protection from the weather, and their days and nights were passed almost exclusively in the open air. They had no mills to grind and bolt their grain into flour, and they were destitute of the condiments and palate stimulants of the present day. They drank no spirituous liquors, and only a portion of them used tobacco, and then only to smoke it in great clay pipes which must have extracted all the nicotine by absorption. They were clothed either in the skins of wild beasts, or the vegetable fabrics which their limited manufacturing skill enabled them to make, while some of the tribes were probably as ignorant of raiment as Adam and Eve before that wonderful serpent interviewed them.

Here were various races of people who were quite free from the "vices of civilization," who lived in that happy primeval state of which poets love to sing, and some of our retrospective modern dentists to preach. Surely, if happiness, innocence and freedom from disease are to be found—

"The heart that is humble might hope for it here."

What did I find? Allow me to say that I went there a believer in the modern origin of dental lesions. I was firm in the faith that toothache and stomach-ache and most other aches are due to our sins; that the human race is gradually deteriorating, and that man, as he departs further and further from nature's simplicity and surrounds himself more and more with the concomitants of a high civilization, as his life from generation to generation becomes increasingly artificial, so do his bodily ills increase, and diseases multiply in number and virulence. I had long been accustomed to tell my patients that were it not that the dentist's skill kept pace with the alarming increase of dental diseases, and were the law of heredity to continue in full geometrically-progressive force, the human race must in a very few generations become edentulous. These theories were the result of my own reasoning, evolved from my inner consciousness, the fruits of pure logic, the results to which indisputable mathematical equations must infallibly lead. Like many another man whose theories are the results of chamber toil, when I put myself face to face with the records of actual fact I found that my fine-spun hypotheses would not hold water, and I dropped them at once, and again resolved for the thousandth time to speculate less and to examine more.

With the exception of the syphilitic diseases, there is not known to-day an oral trouble which all these nations were not familiar with, in its most exaggerated form. I say with the exception of syphilis, for in all those skulls I found but one that bore unmistakable traces of that dread scourge, and it was not at all certain that this was not intrusive and belonging to a later period. This anomaly was found in a cave in Mexico, but it so differed in type from those found with it, and the cave bore such evident marks of having been opened in historic times that I strongly suspected this of being modern.

In the jaws of all the people whose skulls I examined, I found traces of all the diseases known to modern dentistry. There was caries of the most formidable character, black, white and brown. There were the marks of abscesses which devastated great regions of tissue. There was necrosis which had caused the loss of great sloughs of bone, though I must admit that necrosis was more rare than most other oral diseases. There were great masses of tartar enveloping all the teeth in the jaw. There were indications of all kinds of inflammation of soft tissues. There were exostoses and hypertrophies, absorptions and malformations, denudations and abrasions, exfoliations and irregularities. I thought to myself as I held in my hands the evidences of all this disease and suffering, what could these poor creatures do, tormented as they were without hope?—for there were no dentists in those days. Decayed teeth must remain until they could be removed with the fingers, for the primitive people knew not the blessedness, the comforting tenderness of modern forceps. I tried to picture to myself the victim of this terrible decay, that had in some instances destroyed every tooth in the head. I tried to imagine him brooding in silence and gloom over his misery; suffering in patience the exquisite torture with which, to his untutored mind, the Great Spirit had in infinite mercy and loving kindness, or in dark wrath and sullen judgment, visited His weak creations, or in unexpected paroxysms of anguish raising a whoop that shook the forest and caused his dependent family to quake with fear, and I said: "Poor fellow! your lot *was* a hard one. Why the mischief didn't you have it filled—with amalgam if you could not afford gold?" And then I recollected that he was deprived of that inestimable last gift of a good Providence, the modern dentist, and could only suffer and groan and howl and kick the furniture about, and try old-women quack-nostrums until he felt better.

There were fewer irregularities among the teeth of these people than are known at the present day. Their jaws, especially those of the mound-builders, were broad and well developed, giving indications of a muscular race. Nevertheless, bad cases of irregularity were not unknown. The teeth of the Southwestern Indians were the most worn by use, and it was not unusual to find whole dentitions worn completely down to the gums. The Sandwich Islanders had the handsomest dentitions that I ever saw. Their teeth were almost uniformly as white as ivory, and as regular and even as the teeth of a horse. But they were, as a people, sadly afflicted with caries.

There were a number of points which I desired especially to note, and the results of these were usually disappointing to me.

The number of wormian bones did not greatly exceed those found in skulls of to-day, though some of them were unusually large. In one skull, from the mound-builders, the parietal bones were divided by a suture extending clear across them, just above the summit of the squamous portion.

There were but three cases of persistent frontal sutures in adults, all from the Tennessee mound-builders, the others differing not at all in their apparent development from the skulls of moderns.

The number of the teeth has not changed. There were about the usual number of instances of apparently rudimentary wisdom teeth, and supernumerary teeth were not lacking. There were cases of entire lack of certain teeth, the non-appearance of wisdom teeth in adult and even senile jaws being most common. I also found a number of cases of non-eruption of cuspid teeth. In some cases the wisdom teeth had been erupted while the canines were absent. I found such abnormalities as the appearance of a cuspid between the two bicuspids, and malposition of incisors. Usually, however, all the bicuspids and molars occluded perfectly. I found impacted teeth and teeth lying transversely or longitudinally in the jaw. I found some cases of narrow jaws, where there was not room for the eruption of wisdom teeth, which must have caused great annoyance and pain to the possessor.

Perhaps a typical semi-tropical race was that which inhabited ancient Peru. At just what period this people lived, we have no knowledge, but it was some time before the advent of the whites upon this continent. They were a well built race of people, physically, and had made some advances in manufactures, being in this respect the superiors of the North American races. That they were a patient, rather industrious, laborious people, the works which they have left behind them show. They had well developed jaws, the lower one especially being broad and strong. Their teeth were large and fine, generally of a yellowish color, but they were badly troubled by dental diseases. Manifestly they took no care of them, for they were frequently encrusted with tartar. The dentitions of the adults almost uniformly gave indications of wear, many of them being extensively abraded.

I had not opportunity or time to make careful statistics, but the following figures will give an approximate idea of the condition of the teeth of the early inhabitants of Ancon, Peru.

Of the skulls of adults of various ages, I made examinations, more or less careful, of two hundred, taking them as they came, and making no selection. I think they were a fair average of the whole. Of these, seventy-four had lost some of their teeth during life. Forty-three only, so far as I could discover, possessed a perfect dentition and gave evidence of healthy mouths. One hundred and two presented indications of oral diseases. The remainder were in such a state that it was impossible to determine their condition at death. Thirty-one showed extensive absorption of the alveolar process, due probably to various inflammatory conditions. In thirteen cases I found the marks of deep alveolar abscesses, which had caused extensive wasting of the osseous tissue. How many others there were, not of sufficient severity to leave indelible traces upon the bone, it is impossible to say. In two mouths I found supernumerary teeth, and in two there were exostoses so great as to be visible. It will readily be understood that, as the remaining teeth were usually firm in their sockets, ordinary hypertrophies were undiscoverable without mutilation of the specimens. In fifteen cases there was no sign of the presence of wisdom teeth, nor of their loss. Seventy-two dentitions were extensively worn, some of them nearly even with what must have been the border of the gums. In five instances the wisdom teeth were, in appearance, but rudimentary. In eighteen cases the wisdom teeth occupied an abnormal position through lack of room for their development, and this, notwithstanding the usually massive character of the maxillæ. There were four cases of decided irregularity, not counting unimportant deviations from the normal. There were scarce any dentitions that were entirely free from tartar, and some of the mouths contained large masses of calcareous incrustations. There was at least one case of an almost complete calcification of the pulp. How many others, only an examination of the pulp chamber could determine.

Of the ancient mound-builders of Tennessee I examined the skulls of seventy-five. Of these, twenty-seven could be set down as probably free from dental diseases. Thirty-two had carious teeth. There were seven cases of extensive alveolar abscess. Twenty-two had lost teeth during life, and the consequent absorption had obliterated all trace of their existence. Twelve cases showed extensive absorption about existing teeth. There were two cases of visible exostoses, two apparently rudimentary wisdom teeth, and three irregular dentitions. Only seventeen showed depositions of tartar, and but thirteen gave evidences of much wear.

It will be seen that the teeth of the mound-builders were much more free from calcareous incrustations, and less worn than those of the inhabitants of Peru. This was doubtless owing to their living more largely upon an animal diet. There were less cases of irregularity because they were a larger and more muscular race, with broader, stronger jaws, but the proportion of diseased dentitions did not vary greatly.

The teeth of the Sandwich Islanders were much more beautiful, and instances of irregularity were very rare. But the same prevalence of caries and other dental diseases was observable, though in probably not as great proportion. I was unable, in the limited time at my disposal, to attempt to gather any statistics of the skulls of this people, or of those of the few Mexicans, California Indians, and Patagonians in the collection. It must suffice here to say that all showed the presence of the same diseases which we are called upon to treat to-day, and the proportion, while undoubtedly varying among the different nationalities, was sufficiently large in all cases to have given ample employment to a fair sprinkling of dentists, had they existed.

What is the conclusion of this whole matter? It is that dental caries and oral diseases are not the results of modern civilization. That they are not wholly due to errors of diet, nor to the use of tobacco, or condiments, or any peculiar manner of preparing food, nor do they have their origin in perverted neural currents and the general deterioration of mankind, since they have accompanied man, so far as we can trace, through all the gradations of his development.

The further consideration of the subject I leave for the future, only insisting that while I do not, in this paper of a necessarily hurried preparation, make pretension to minute exactness, the general truth of the observations made and the approximate accuracy of the statistics given, I will stoutly maintain. Anyone who considers the conditions under which such researches are made, and the care which must be exercised to prevent accidental mutilation of the treasured specimens, the consequent impossibility of making intimate inquiry into the internal condition of the teeth and jaws, and the necessary absence of microscopical investigation of the tissues, will understand that little more than general results can be expected from such an examination as that which I have here reported.—*Independent Practitioner.*

An exchange says: If from boyhood to old age everybody, from this time forward, were to use the tooth-brush as they should, and adopt a proper regimen of phosphoric and bone-producing food, in a few generations there would be a return to a primitive condition of tooth structure, and suffering from tooth diseases nearly cease.

A woman went to an honest doctor "out west" for something for her husband's rheumatism. The doctor wrote her a prescription, saying: "Get that prepared at the drug store and rub it well into your husband's back. If it does him any good, come and tell me; I've got a touch of rheumatism myself."

With intelligent treatment few exposed nerves require to be devitalized.

The Dental Practitioner

CHAS. E. PIKE, EDITOR, 1415 WALNUT ST.

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HAVE WE TOO MANY DENTAL COLLEGES?

While all progressive dentists desire the advancement of the profession and an elevation of the educational standard—many of them devoting their best efforts and much valuable time to that end—the thought has often occurred to us, if the profession, as a class, are adopting the best means to accomplish this much desired result.

To the superficial observer of the professional field, as he sees new schools springing into existence year after year, and reads the superior advantages offered by each as set forth in their annual announcements, it might appear, with the continuance of those already established, (and the assistance of a *few more* that no doubt will be established) that it would require but a short space of time to place us head and shoulders above any of the learned professions.

But is all this bustle and activity really a progressive movement? Does this increasing number of dental schools signify an advance in dental education? If a uniform standard could be established and conscientiously adhered to, without deviating one "jot or tittle," then it might be claimed that a multiplication of schools gave so many additional opportunities, and with these a larger proportion of students would receive the benefit. Now this is an assumption that can become a fact only by the concerted action of all the colleges, together with the profession at large. There is no dental school in the country whose existence is not dependent, either directly or indirectly, upon the size of its class and the amount of fees received therefrom. While this is the case, there must necessarily be considerable rivalry and competition between the different institutions to secure the largest possible number of students; and among the inducements held out, those of a pecuniary character often take precedence of the educational.

It is a common saying that "competition is the life of trade." This *may* be true of dental colleges, but we fear the effect upon the profession is rather demoralizing; for in this competition for large classes and long lists of graduates, the more recent schools must, perforce, offer some inducements to attract students from those older and better known, and it would seem but natural that a reduction of fees should go hand in hand with a lower educational standard.

Again, the reduction of fees drives from the corps of instructors or professors the more able *teachers*, and thus faculties, we fear, are sometimes made up of mediocrity, while the original investigators and those best qualified to *teach* are driven from the field for want of proper compensation. Hence it is that the profession is soon overloaded with disqualified or incompetent practitioners, and this demoralizing tendency, resulting from an excess of dental schools, radiates in many directions, paralyzing the action of those who are struggling for a higher standard in all matters pertaining to dental education.

We are assured by those in a position to know, that the inquiry, "how soon can I get through?" is frequently the most prominent one from men who contemplate attending college. The facilities offered for obtaining a thorough education does not so much concern them as the ease and short space of time required to obtain a diploma, and they will finally be found in that institution which offers the best inducements in the items of *time* and *money*. Such men usually reflect discredit upon the profession, as well as the particular school which gave them authority to practice. Now, until the *possibilities* for such an occurrence are removed, the elevation of the *profession* will be a difficult matter, for in the eyes of the public the constant influx of such offscourings will pollute the whole stream.

We have no wish to detract in any manner from the *good* which has resulted to the profession and the public through dental schools. Their influence has been powerful in bringing the profession up to their own level, and in giving to the public a class of men better fitted to cope with dental disease. Now that this much has been accomplished, they should plant the standard upon a *still higher* level, so that the gaze of the practitioner, as well as the student, shall be constantly upwards. It seems to us that this could best be accomplished, not by a multiplication of schools, but by a *consolidation* of those already in existence. Our dental schools might well be compared to an army scattered in small detachments over a vast territory, neither strong enough in itself to do much more than harass the enemy, while united they could march to a glorious victory.

We do not wish it understood that we would have but *one* dental college in the country, but in several States there are two colleges, usually located in the same city, and, in one at least, there are three. If, where such is the case, these schools would join their forces, they could organize an institution more powerful for the true advancement of the profession than both, working separately—exactly upon the same principle that in the movement of heavy machinery an engine of 100 horse power will be more effective than one hundred engines of a single horse power. It is *quality* and *force*, not *quantity*, that is needed in our schools, as well as their graduates to conserve the true elevation of the profession.

With the number of schools diminished, but with strength increased, they would be in a position to dictate a broader and higher course of education, and we feel sure they would receive the cordial support of the profession, so that those not at first inclined would be forced to adopt the same platform or close their doors for want of material. By such an arrangement a larger proportion of students would be brought under the influence of the very best teachers in *all* the branches, and they would go out to their several communities, not only with a diploma, but with an *education* that would make its possession honorable and give it a weight in all countries where now its significance is of little import. Then, when our schools are on a proper level, there should be but one entrance into the dental profession, and that *through the dental college.*

A HISTORICAL REFERENCE TO MECHANICAL DENTISTRY.

BY GEORGE H. PERINE, M.D., D.D.S., N. Y.

Mechanical dentistry is a department which has undergone many changes since hippopotamus bone constituted one of the most important materials employed in the construction of dental plates. In the succeeding pages we will endeavor to give a fair idea of the improvements which have been made, and different methods which have from time to time been adopted in this branch of the specialty.

From a very early period, the subject of cleft palate is one which has occupied the marked attention of medical and dental practitioners, and the invention of many contrivances for its remedy has been the result. The first recorded suggestion of an obturator was made by Petronius, and Pare, in 1541, described appliances for this defect, and Guillemean, fifty years later, tells us that obturators were then in use among the Greeks. Fanchard, in 1728, and Bourdet, in 1756, published descriptions of the appliances then in use. Delabarre, in 1820, improved upon the fixtures employed by Bourdet, and Snell, in 1828, made in turn additional improvements upon Delabarre. Dr. Hullihen was very successful in the construction of obturators, as were also Drs. Rowell, Castle, Cone, Barker and others.

Dr. A. C. Castle has informed us, that in 1832, he constructed and inserted an obturator for C. W. Stearns, who was at the time residing at Springfield, Mass. Dr. Stearns, in 1841, originated an improved obturator which was of ingenious construction, and exceedingly well adapted to the purpose for which it was intended. While residing in London in 1847, Dr. Stearns published in *The London Lancet* a description of this appliance, and also some observations upon congenital cleft palate.

Much credit is certainly due Dr. N. W. Kingsley, who about 1860 commenced his experiments on and improved and simplified these appliances, and thus brought them to their present state of perfection. In 1880, Dr. Kingsley published a work entitled *A Treatise on Oral Deformities as a Branch of Mechanical Surgery*, which has been received with favor by the profession generally, which has evidently accepted the book as a valuable addition to the literature of the science.

In 1867, Dr. Suersen introduced an improved obturator. It was constructed upon scientific principles, and, up to the time of the introduction of Dr. Kingsley's improvement, was considered the most perfect fixture of its character ever made.

In 1866, Dr. Joseph Richardson published the first edition of *A Practical Treatise on Mechanical Dentistry*. This work, revised and enlarged, has recently passed through a third edition. It is regarded as a standard authority, and is considered the best and most complete treatise which has been given upon the subject generally.

Artificial Noses.—The operation of rhinoplasty is gradually being superseded by the introduction of mechanical appliances, owing to the great success which has been attained in the imitation of nature, and the abolishment of pain to the patient.

Many curious and interesting cases could be cited where the ingenuity of these appliances has been made to restore, almost intact, not only the facial appearance, but the power of speech and deglutition. Of these we shall mention but a few.

Dr. Wm. E. Ide, in 1850, reports a case where the entire nose and palate were destroyed, and articulation and mastication much impaired. He supplied an artificial nose and palate, and, by a most ingenious and difficult arrangement, succeeded in almost wholly restoring the speech and power of mastication.

In a case treated by Dr. Hooper, in 1860, an artificial nose, upper lip, and obturator were furnished, with the most satisfactory results. An artificial moustache covered the lip, and aided in the improvement made in the appearance of the patient.

Dr. Wildman, in 1863, records a case in which a mechanical appliance made by him supplied an entire external nose with obturator attached.

Dr. W. H. Herriott describes, in the following year, a very perfect fixture with which he supplied the entire nose and upper lip, which, with the anterior portion of the alveolar process of the superior maxilla, from the right to the last two molar teeth on the left, had been carried away by a fragment of a shell.

Dr. T. W. Hentz constructed an appliance in 1867 for a person who was wounded in the face during the war, having had his entire upper lip, front teeth, and nose carried away, his palate being cleft. The obturator made by Dr. Hentz had nose and teeth attached, and through the aid of a false moustache and a pair of spectacles, its artificial character was rendered almost indistinguishable. The fixture could be removed and replaced at pleasure, and so perfectly was it arranged that the imperfection of speech was removed.

In 1874, Dr. C. A. Brackett supplied the upper lip, entire nose, and an obturator. To disguise the deficiency in the lip and the external connection between the artificial gum and the nose, an artificial moustache was neatly adjusted, the disguise being complete. The fixture was worn with perfect ease.

Porcelain Teeth—the introduction of which into this country in 1817, by Dr. A. A. Planton, marked an epoch in the annals of the specialty, and led to many important changes in the construction of artificial dentures, were of French origin, though they owe their present state of perfection to American skill and American ingenuity.

Many attempts were made to manufacture these teeth prior to their introduction. Dr. H. Villeers claims to have made them in Boston in the year 1819, and, previous to that time, to have manufactured them in England.

In 1822, Mr. Charles W. Peale was successful in their manufacture, and was followed by Samuel W. Stockton in 1825.

For a long time a number of prominent dentists were experimenting with and constructing these teeth for use in their individual practice; and some very creditable specimens were produced by Dr. Blondin, of Charleston, Drs. Hudson, Burr, Roper, and many others.

In 1838, Dr. S. Spooner, of New York, published a work on artificial teeth.

Stockton and Alcock were the principal manufacturers of porcelain teeth until 1842, when Jones and White brought this work to a greater degree of perfection than any who had preceded them. They have since been followed by many others.

Experiments were for a long time prosecuted by dentists for the production of carved blocks and teeth made in sections. In order to prevent their cracking when attaching them to the plate, some were made with platina pins inserted and baked in the block, which were passed through holes in the plate and riveted and banded inside and out. Another plan was to attach them to the plate with pins through the blocks, secured with sulphine and other cements. Other devices were resorted to about the same time by Drs. Neall, Keep, Crosby, Crofoot, Porter and others, but Dr. Wildman was unrivalled in perfecting a life-like appearance of teeth and gums.

The manufacture of artificial teeth has greatly increased of late years, and it is estimated that the ten manufactories now in operation in the United States annually produce over 8,000,000 teeth. This statement will convey an idea of what is being done in this department of mechanical dentistry, and what a large number of teeth are exported.

The carved block teeth were finally superseded by the introduction of the continuous gum, with which experiments had been made as early as 1815, but with no satisfactory results at that time.

About the year 1846 simultaneous experiments were made by Drs. John Allen and Wm. M. Hunter. Dr. Allen, in 1851, secured a patent upon the process.

In 1852, Dr. Hunter published his method, and says: "To Delabarre must be given the credit of having first conceived and executed the union of artificial teeth already baked, with an artificial gum and plate.

"To Audibron must we give the credit of having first made the claim, so far as I am informed, of having overcome the shrinkage of material, which claim was made in his published work and contested twenty years after by Lefoulon, but which principle is claimed by no other author."

After the appearance of this publication, Allen brought suit against Hunter, which suit was decided in favor of the latter.

To Dr. Allen is due the credit of bringing this process to the present degree of perfection, and making it one of the best and most artistic methods extant for the construction of artificial dentures.

Allen, in 1845, obtained a patent for the method of restoring the contour of the face by means of metallic bulbs.

The next construction of artificial dentures were those of Dr. M. Loomis, in 1854, which consisted of teeth and base made entirely of porcelain. This was esteemed impracticable, on account of its being so difficult to estimate with accuracy the amount of shrinkage in the process of baking.

The gutta percha base was introduced by Dr. N. B. Slayton in the following year, but proved only of temporary value.

Dr. D. W. Oliver's method was to swedge and fit, as one would a gold plate, a tin plate, upon which the teeth are arranged, and secured to the plate by casting with pure tin. He obtained a patent for this method in 1858.

We have already alluded to the construction of gold plates, introduced by Dr. Qardette, and also to the early experiments made by Dr. Hudson in cast plates, which plan was followed by Dr. W. A. Royce in 1836. It was revived by Dr. Geo. E. Hawes.

In 1842, Dr. A. Hill made a series of experiments for depositing plates for artificial teeth by the electro-galvanic process, which was soon abandoned, it being discovered that, in wearing these plates, a galvanic action took place which proved fatal to this method.

Dr. A. A. Blandy, in 1857, prepared an alloy which he patented under the name of "Cheoplasty." Dr. H. Weston subsequently introduced a metal, which was treated in much the same manner.

The last attempt at this sort of plate is a gold alloy, patented by Dr. George F. Reese, who claims that, from its peculiar composition, it is particularly adapted to the purpose.

It is claimed that experiments in enamelling gold plate so as to imitate the gum, roof, and anterior of the mouth, and disguise the setting of artificial teeth, were made as early as 1834, by Dr. H. Balsam; and that similar work was done by Dr. D. C. Ambler in 1836.

A few years after this Drs. George E. Hawes and C. C. Allen experimented in this direction with partially successful results.

In 1847, Dr. M. Levitt obtained a patent on enamel used for this purpose.

Celluloid for dental plates was introduced in 1870, and is still used to some extent.

The original patent of Nelson Goodyear for hard rubber was issued in 1857. After the death of Goodyear, this patent was reissued.

In 1856 experiments began to be made by Drs. C. S. Putnam, Bevins, and others, for the purpose of applying hard rubber to the manufacture of bases for artificial teeth.

In 1859, Dr. B. W. Franklin published instructions (illustrated) for preparing and constructing artificial dentures upon vulcanized rubber, and in 1860 Dr. E. A. L. Roberts issued a small work entitled *The Dental Instructor*, in which he gave instructions for vulcanizing rubber or gutta percha, for dental purposes, and from that time to the present its use has greatly increased.

John A. Cummings, in 1855, applied for a patent on forming the plate and gums in which teeth are inserted, in rubber and vulcanized. This application was three times rejected, but a patent was finally obtained by Cummings in 1864.

After having allowed his first application to sleep in the Patent Office for nine years, Cummings sold or transferred his patent in the same year that he received it, to some parties in Boston, who also obtained from Henry B. Goodyear and the American Hard Rubber Company the exclusive right and license to make use of and vend hard rubber as applied to dentistry and for dental purposes. The necessity for the use of this material having become apparent, these parties now began to make exorbitant demands upon the dentists, and where these were not acceded to litigation ensued; and, in 1880, it was estimated that in one way and another, principally to the non-settlement of complications, this rubber patent had cost the specialty over $10,000,000. The difficulty is now, however, at an end, the patent having expired.

Dr. Wildman, in 1865, published a valuable work on the History and Properties of Rubber, containing instructions for the manufacture of hard rubber for dental purposes, and giving a clear and concise description of the various stages in the manufacture of vulcanite as a base for artificial dentures.

In 1858 a substance was introduced for plates by Dr. G. Dieffenbach, which he called "Amber Base," and for which he obtained a patent. The composition differed from the rubber compound, and preference was given to it over many of the materials at that time in use.

Dr. G. F. J. Colburn, in 1867, patented a base for artificial teeth, which at the time was thought would become a substitute for rubber. It was in reality a cement of which the mineral asbestos was one of the ingredients compounded with other substances. It was capable of being moulded in form, and also of being applied to metallic plates to unite the teeth thereto. To Dr. Colburn is attributed the credit of first suggesting the use of gutta percha for making impressions of the mouth, which he did in 1847.

Caphorbia Corollata—Common milk weed from which "Lamb's Vulcanized Water-proof Gum," as it was called, was made and introduced to the specialty in 1875, as a substitute for rubber for dental purposes, by Dr. W. C. Barrett. Experiments were made with it under the impression that its adoption would relieve those using it from liability, under the claims of the Cumming's patent. A joint committee from the Seventh and Eighth District Dental Societies of the State of New York, was appointed to examine into its merits. In their report, these gentlemen declared that they had tested its qualities by vulcanizing and experimenting with the material as far as the limited time allowed them would permit, and that they "believed it to be superior to rubber in many of its characteristics, and in every respect its equal, and they therefore recommended it as eminently worthy of the attention of every dentist." It is to be regretted that so hasty a decision was rendered by the gentlemen of the committee, for the "Water-proof Gum" they so highly endorsed proved a decidedly worthless material.

In 1871, Dr. James W. White published a small volume devoted to taking impressions, with descriptions of material used, together with a chapter on porcelain teeth.

We next meet with collodion as a base for plates. This was patented in England in 1859, by John Mackintosh, and introduced by Dr. J. A. McClelland, under the name of "Rose Pearl."

Dr. D. Van Denburgh introduced the use of aluminum as a plate, in 1859, and this was revived by Dr. John J. Bean in 1866. Its use, however, did not become general, owing to the difficulties to be overcome in casting these plates, and in the preparation of a mould that would bear without injury a heat sufficient to prevent the teeth from breaking when in contact with the melted metal.

About this time Dr. B. W. Franklin made a series of experiments by which he produced beautiful blocks of continuous gum, to be used with vulcanite rubber plates. He also made experiments with a view to vulcanizing blocks to metallic plates; and other experiments, showing the amount of expansion of plaster employed for dental purposes.

Dr. T. L. Buckingham was also engaged in experiments with plaster in the same direction, about this time.

In 1864, Dr. S. D. Eagle patented a method of securing single teeth or blocks to a metallic plate, by means of vulcanized rubber. The object of this method was to obviate the warping of the plate in soldering the teeth to it.

The warping of plates had proved a source of much annoyance and trouble to practitioners, who resorted to numerous experiments to discover the means of overcoming the difficulty. While upon the subject we are reminded of a somewhat amusing incident which proves that there are those, even among dental practitioners, whose supreme ambition to be first in everything oftimes renders them objects of ridicule. The veracity of the dentist is too well established to call for any laudatory remarks from us; but there are always to be found in the most exempt bodies, those who fail to reach the popular standard, as the following goes to prove:

At a dental meeting the subject of preventing the warping of metallic plates came up for discussion, and several theories had been advanced, when a member who was something of a wag arose, and with much gravity announced that he had entirely overcome the difficulty by simply plunging the heated plate into *common molasses*. Whereupon Dr. ——, with much dignity arose, and stated that he had tried a similar experiment and with highly gratifying results, but that instead of using molasses he had employed *the finest quality of golden syrup*. It is needless for us to remark that some one smiled.

In 1867, Dr. J. B. Newbrough offered to the profession "Bromite, or Gum-colored Iodized Rubber," which he claimed was not an infringement on the Goodyear patent. A suit against Newbrough was, however, instituted by the Goodyear Rubber Company, which, after a time, was in some way compromised or settled.

Experiments are being constantly made in each department of mechanical dentistry, but what improvements or valuable discoveries are destined to result from them in the future, we are of course unable to surmise.—*Dental Headlight.*

ANOTHER poisoning by Mrs. Winslow's soothing syrup. The victim was a two months old infant, living in Washington street, Brooklyn. For a week or so the mother had been in the habit of giving the child small doses of the medicine from time to time, with the usual soothing effects. On September 5th the child was exceedingly restless, and the mother, before retiring, foolishly administered, as she admits, a full teaspoonful of this syrup, although according to the directions she should not have given more than one half of this quantity to an infant of that age. In the morning when she awoke the child was dead.

A POWERFUL antiseptic wash may be made by mixing sixty-seven per cent of carbolic acid with thirty-three per cent of resorcin, and adding ten per cent of water, which may be diluted to suit.

THE annual meeting of the Dental Association of Maryland and the District of Columbia will be held at Baltimore, Md., beginning Wednesday, Oct. 24, 1883.

H. M. SCHOOLEY, Sec'y,
1215 Penna. Ave., Washington, D. C.

THE QUERIST.

"What kind of varnish is best to use for sand-paper disks, and the best way to cut them so I can do it myself?"—G. W. P., Wis.

Shellach varnish is probably the best. Dr. Bodecker recommends three or four coats of this varnish in preparing the paper for disks. Use the first coat quite thin, as it will penetrate the paper more thoroughly and make the disk last much longer. The next coat should be a little thicker, and the last one quite thick. A die such as is sometimes used for cutting gun wads serves an excellent purpose for cutting the disks; or, the size required might be marked with compasses and then cut with shears. P.

To J. P. R., N. Y.:—A Bunsen battery will last for two or three weeks for a surety; longer than this it cannot be relied upon. A good way is to charge two cells every two weeks, keep all the parts of the battery bright and clean, and then, by amalgamating your zincs every time you charge your cells, the zincs will last for about thirteen months in everyday use.

There is no objection to using a Fuller battery for your electric mallet. Some dentists use it altogether. The Fuller battery is made in this way: Take six glass jars (the Bunsen kind) and fill with electric cone fluid, allowing room in the jars for the porous cups, which are to be filled with water, some broken pieces of zinc and a copper wire having previously been put into the porous cups. Place the porous cups into the jars containing the electric fluid, and then connect the wires thus: copper to zinc, copper to zinc, etc., until all are joined, then attach your mallet cord. This battery will last from three to six weeks, when only the electric fluid will have to be renewed. This is a cheap and durable battery. But allow me to suggest that, if J. P. R. is like most dentists who use batteries,—expecting them always to be in first class working order without attention—he had better abandon its use; because, unless a battery is well looked after, it will give comparatively little satisfaction.

A. M. J., Phila.

In the August number, A. F. G. says: "After vulcanizing a black rubber case in the new mode heater, and laying aside for a few days, I found my case turned a light brown. What is the cause of it?"

The above is a little obscure. If the case was only washed off and laid aside, when it became dry of course it would be a light brown, caused by the intermixture of some of the plaster, but if we assume that the case was scraped, smoothed and polished, then laid aside, and from a pure black color became, in a few days, a light brown! it is certainly very remarkable and would merit further investigation. I have never had such an experience yet. Although several pieces of black, vulcanized rubber plate have laid about my office for some two or three years, I see no discoloration. They are just as black as ever they were. If A. F. G. gave a more minute explanation of his vulcanization, some cause might be found for the discoloration.

W. R. H.

The Wisconsin State Medical Society, during its recent annual session, passed a resolution virtually declaring consumption to be an infectious disease, and urging the necessity of the proper isolation and disinfection of those suffering from it.

"There is nothing very brilliant about our Bremen dentists," said a lady to a member of the profession in Berlin, "but they are very obliging. If you wish to have a tooth extracted with gas, they forthwith light the chandelier."

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LONG HANDLES.

UPPER, Nos. 1, 2, 3, 4, 5, 6, 7, (No. 1 is the largest size.)

LOWER, Nos. 1, 2, 3, 4, 5, (No. 1 is the largest size.)

PARTIAL LOWER CUPS.

ENCLOSED CAVITY, Nos. 9, 10, 11, (No. 9 is the largest size.)

OPEN CAVITY, Nos. 6, 7, 8, (No. 6 is the largest size.)

UPPER AND LOWER CUPS.

PARTIAL UPPER, Flat Bottom, Nos. 8, 9, 10, 11, (No. 8 is the largest.)

FULL LOWER, Flat Bottom, Nos. 12, 13, 14, (No. 12 is the largest.)

PRICE 25 CENTS EACH.

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13th & Filbert Streets, Philadelphia, Pa.

PRICE LIST

—OF—

GOLD ❧ FOILS

KEPT CONSTANTLY IN STOCK.

	⅛ oz.	½ oz.
"R. S. Williams" Soft & Cohesive, " " Cylinders, Style "A,"	$4.00	$15.00
"Hood&Reynolds" Soft & Cohesive " " Cylinders, Style "A,"	4.00	15.00
"J. B. Dunlevy's" Soft & Cohesive,	3.75	14.00
"Nickolds" Improved Soft,	3.75	14.50
"S. S. White's" Quarter Century,	4.00	15.00
" "Globe"	4.00	15.00

Other Foils furnished at Manufacturers prices when desired.

IMPROVED
CAPSICUM BAGS

WM. C. FOULKS, D.D.S.,

752 North Nineteenth Street,
PHILADELPHIA.

SECOND-HAND
AND
SHOP-WORN GOODS

~~Gas, (nearly as good as new), ... $28.00~~
~~One "Snow's Standard Saliva Ejector," complete, (slightly shop-worn) . . . . 15.50~~
~~One OILED WALNUT SPITTOON STAND, S. S. WHITE PATTERN (Oval) Marble Top, with Glass~~
~~One Gas Apparatus, S. S. White's Stand, 4½ Gallon bag complete, with 100 Gallons Gas,~~
~~as good as new (original price, $22.00) . . . . 8.00~~

One ARCHER NO. 2 SPITTOON STAND, OILED WALNUT, slightly shop worn 7.00
One S. S. WHITE WALL CABINET (in good condition) 15.00
One S. S. WHITE EXTENSION BRACKET, No. 2, good as new (Original price, $18.00) 10.00
One SNOW & LEWIS EXTENSION BRACKET, Bronze, with Drawer, shop-worn (original price, $12.60) 8.00
A Job lot of H. C. COYS PATENT NOISELESS HAND LATHES with two Chucks, each 3.00
One SALMON'S AUTOMATIC PLUGGER, with 10 Salmon and 3 Varney Points, all equal to new, . 10.00
Two CASES, containing OPERATING INSTRUMENTS and MECHANICAL TOOLS, a list of which will be furnished on application, very cheap at. 54.00
One SHOW CASE, HEAVY PLATE GLASS, 17½ inches long, 12½ inches wide, 9½ inches high, equal to new 6.00
One S. S. White Wooden Chair, (Illustrated in S. S. W. Catalogue, 1865), covered with green plush, foot stool, a low operating stool and spittoon, in fair condition, ... 30.00
One Archer Iron Chair, No. 7, covered with green rep, with N. P. spittoon attached, equal to new 3.000

Boxing on above goods Extra.

GIDEON SIBLEY,

13th and Filbert Streets, Philadelphia, Pa.

One Gas Apparatus, S. S. White's Stand, 4½ Gallon bag complete, with 100 Gallons Gas, (nearly as good as new), ... 28.00
One "Snow's Standard Saliva Ejector," complete, (slightly

REDUCTION IN PRICE.

DENTALIA.

Former Price,..............,....$3.25. Reduced to.................$3.00.

DENTALIA! DENTALIA! DENTALIA!

This delicious MOUTH-WASH is composed of materials noted for their cleansing and healing properties, and will be found beneficial in

CLEANSING BOTH NATURAL AND ARTIFICIAL TEETH,

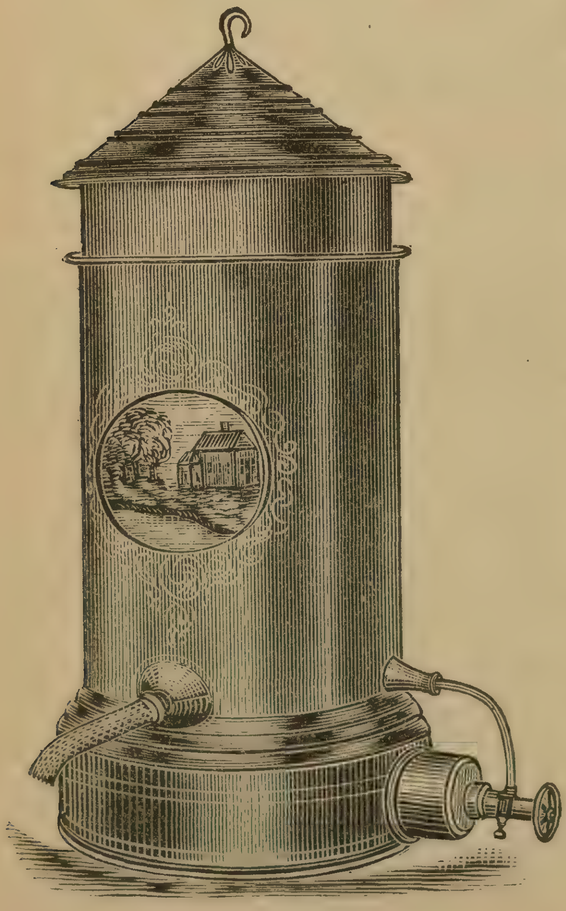
correcting offensive breath, and healing and hardening the gums.

This is not a new and untried preparation, but has been used many years and has an established reputation.

We are now the sole manufacturers, and confidently offer it to the Profession.

The label does not bear our name as manufacturers, but a blank space is left for the Dentist to insert his own name (if desired), thus giving it the appearance of being his own preparation.

Put up in 3-ounce bottles, with metallic tops. Price $3.00 per dozen.



Gasometer, for Nitrous Oxide.

The accompanying Cut represents a very complete, compact, and ornamented arrangement for Liquid Nitrous Oxide Gas.

The base of the Gasometer is constructed with a receptacle for a 100 or a 500 gallon Cylinder. With this apparatus no bag is necessary, whereby a great saving of Gas is effected, as it is drawn directly from the Cylinder to the Gasometer, which being perfectly tight, there is no escape, (as is usually the case with a majority of the bags) except what is actually drawn from it through the Inhaler. Should more Gas be drawn into the Gasometer, than actually needed for the Patient, it is not wasted, as it will keep perfectly good for days at a time. Capacity of the Gasometer 8 Gallons.

Price of Apparatus, complete, including Tubing, Inhaler & 100-gal Cylinder and Gas	**$50.00**
with 500 Gallon Cylinder and Gas	**77.00**
Gasometer alone	**20.00**

Ten per cent off if order is accompanied by Cash.

GIDEON SIBLEY,
13th and Filbert Sts., Philadelphia, Pa.

Miscellaneous Price-List.

Articulators No. 1		$ 1.00
Ammonia Fused and Granulated (5lb Boxes)		1.50
Sibley's Gold and Platinum Alloy, per ounce		3.00
Caulk's "White"	" "	3.00
Dr. Flagg's "Standard"	" "	6.00
King's "Occidental" Amalgam	"	3.00
Pierce's	" "	4.00
Arrington's	" "	3.00
Lawrence's	" "	3.00
Townsend's	" "	2.00
Samson Rubber	per pound	3.00
Extra Elastic Rubber,	"	3.00
Bow Spring "	"	3.00
Whale Bone "	"	3.00
Doherty's Rubber, 1 and 2	"	2.50
" " 1 and 2, (Weighted)	"	4.00
" Black "	"	2.50
English Pink Shade No 1	"	10.00
" " " "	"	7.00
Gutta Percha Base Plate	"	2.50
Acme Cement	per package	1.50
Weston's Insoluble Cement	" "	2.00
Caulk's Diamond "	" "	1.00
Pierce's Phosphate of Zinc	" "	2.00
Agate Cement	" "	2.00
Caulk's Hydraulic Pebbles	" "	3.00
Houghton's "Os Artificial"	" "	1.00
S. S. White's Dental Engine—14 points		50.00
Johnson Bros " " "		40.00
Bonwill's " "		44.00
Gilling Twine	½ ounce skeins	.10
Floss Silk, plain	per dozen	1.25
Rubber Dam, Medium	per yard	1.75
" " Thin	"	1.25
Shellac Varnish	per bottle	.25
Sandrach "	"	.25
Liquid Silex and brush	"	.25
Re-distilled Mercury	per ¼ pound	.50
Bibulous Paper (Japanese)	" 100 sheets	.50
Absorbent Cotton	2 ounce pkgs	.20
Spunk	per ounce	.20
Yellow Impression Wax	½ lb Boxes	.38
" Base plate "	"	.50
Modeling Composition	per pound	1.25
Lands Air Chambers	per dozen	.50
Anchor Flasks (Iron)		1.00
Whitney " "		1.00
Hayes " "		1.00
Star reversible "		1.25
Automatic Mallets, Snow & Lewis, N. P.		10.00
" Plugger points	per dozen	3.50
Excavators (Blued handle)	"	2.00
Burs and Drills " "	"	2.00
Pluggers, Chisels, Scalers, and Burnishers 3-16 in. blued handles, per dozen		4.00
Barbed Nerve Extractors	"	.75
Foil Shears 8 inch Japanned Handle		1.00
Foil Carrier and Plugger combined N. P.		1.25
Foil Tweezers	"	.60
College Plyers	"	1.00
Pocket Lancets, (1 blade), Shell Handle		.75
" " " Rubber "		.50

Lancets, (fixed blade), Ivory Handle	.75
" " Ebony "	.50
Chip Blowers, Rubber bulb.	1.00
Syringes, Hard Metal, N. P.	1.25
Mouth Mirrors (Plain) Ebony Handle	1.00
" " Magnifying " "	1.50
Nerve Paste, per bottle	.35
Annealing Lamps, Nickle-plated tops	.40
Emery Strips, per gross	.50
Leather Lathe, Cords ¼ inch per foot	.03
Bill Heads No 1 per 100	.60
" " " 2 "	.40
Robinson's Fibrous Textile Filling and Lining, per ½ ounce	2.50
Felt Cones.	20 and 40
" Wheels	15 " up
Brush "	10 " up
Corundum Wheels	6 " up
Rubber Dam Forceps, per pair	2.50
Extracting " N. P. "	2.25
" Forceps Hurd's Pattern, N. P. per pair	3.25
Union Felt Wicks	.06
Star Rubber Dam Punch, N. P.	1.50
Rubber Dam Weights "	.50
" " Clamps "	60 and up
Hard Rubber and Corundum Disks	.25
Corundum Disks, per dozen	2.75
" Points, not mounted, per doz	.75
" " " "	1.50
Corrugated Soft Rubber Disks, each	.10
" " " Points per dozen	.75
Wood Polishing Points, ass'd per 100	1.25
Rubber Scrapers and Chisels, each	.25
" Files, Steel Handles 4½ inch	.20
" " " " 5¼ "	.25
" " " " 6 "	.30
" " Double End 7½ "	.28
" " " " 8 "	.35
" " " " 9 "	.50
" " Fish belly 7½ "	.42
Double End Rubber Rifflers, each	.20
Seperating Files, Earnest, per dozen	1.00
Plug Finishing Files, Double End, per doz	2.40
" " " " " "	2.00
Biscuspid Files, per dozen	2.00
Molar Files, Double curve, Feather edge	.30
" " " "	.22
" " " single "	.18
Stump and Pivot Files	.18
Wood Plugging Mallets	.25
Mercury Holders, Double top	.50
" " Single top	.25
Wedge Cutters, N. P.	2.25
Engine Cords	.10
Nerve Broach Holders	.25
Pallette, for mixing Cement (Porcelain)	.20
" " " French plate	1.00
Bench Brushes, Bone Handle	.35
Wax Spatulas	.30
" Dr. Beal's pattern	.40
Soldering Tweezers	.10

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KANSAS CITY, MO.

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FOR THE

CELEBRATED SG OR SIBLEY

TEETH.

The quality of these TEETH is beyond question, far superior
to any for the price, and we find they give
equal satisfaction to the highest
priced ones.

OUR STOCK OF

DENTAL GOODS

WILL BE FOUND MUCH LARGER THAN THAT OF ANY OTHER

WESTERN HOUSE.

Enabling us to meet the requirements of any Dentist
without the necessity of sending East.

Also, Agent for the "Dental Practitioner," Price, 50 cents a year

NO DENTIST SHOULD BE WITHOUT IT.

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J. L. BREWSTER, Jr.,
543 Delaware Street,
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PEIRCE'S AMALGAM.

RECOMMENDED FOR ITS

PURITY,
PERMANENCY,
PLASTICITY.

MANUFACTURED BY

DRS. PEIRCE,
PIKE, AND
PHREANER.

1415 WALNUT STREET, PHILADELPHIA, PA.

Price, $4.00 per oz. Put up in ounce and half-ounce packages.

This amalgam is made from strictly pure materials, and from the formula of Prof. C. N. Peirce. It was first made by Dr. Peirce for use in his own practice, and has become deservedly popular with those who have been for some years constantly using it. Its color, edge-strength and toughness render it one of the most desirable plastic filling materials, while shrinkage or expansion are not perceptible. Each package of amalgam will contain a piece of specially prepared "Asbestos Felt," with directions for its use as a capping for exposed pulps, or as a non-conducting septum between sensitive dentine and metallic fillings.

Orders by mail, directed to

Dr. W. A. Phreaner, 1415 Walnut Street, Philadelphia, Pa.,
will receive prompt attention.

PHOSPHATE OF ZINC CEMENT.

Prepared by

DR. C. N. PEIRCE.

The properties of this Cement have been well tested, and not found wanting. It does not deteriorate with age. Directions accompany each package. It can be procured of dealers in dental supplies, and in quantity of the S. S. WHITE DENTAL MF'G CO., JOHNSON & LUND, and of the MANUFACTURER, 1415 Walnut Street, Phila.

PRICE, PER PACKAGE, $2.00. **LIBERAL DISCOUNT TO THE TRADE.**

DENTAL DEPARTMENT

OF THE

STATE UNIVERSITY OF IOWA.

The object of the School is to impart a thorough knowledge of Dental Science and Art. In pursuance of this object, it will be the aim of the professors to qualify their students to perform that highest service of the dental practitioner—*the saving of the natural teeth*—in the most scientific and skillful manner. They will also give such practical teaching in Prosthetic Dentistry as will secure the best results of Dental Art and Mechanism. Each student is expected, during his course of study, to perform with his own hand, under the direction of a competent Demonstrator, all the usual operations of Dentistry.

All Departments of the University are open to students entering the Dental Department, without additional charge. The lectures in general Anatomy, Physiology Chemistry, and Surgery are attended in common with the medical class. The Dental Specialties are taught by a corps of four professors, who are practicing dentists of large experience.

FEES—RESIDENTS OF THE STATE—MATRICULATION AND LECTURES, $40.00.
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WARRANTED TO BE

THE STRONGEST & MOST UNIFORM RUBBER MANUFACTURED.

It is the toughest and most durable Rubber made. Vulcanizes same as ordinary Rubber.

SAMSON RUBBER.

MANUFACTURER OF ALL KINDS OF

Dental Rubbers and Gutta Perchas.

PRICE LIST OF DENTAL RUBBERS AND GUTTA PERCHAS.

No. 1 Rubber, per lb.	$2 50	No. 1 Weighted or Amalgamated Rubber, per lb.	$4 00
No. 2 Rubber, per lb.	2 50	No. 2 Weighted or Amalgamated Rubber, per lb.	4 00
Samson Rubber, per lb.	3 00	Black Weighted or Amalgamated Rubber, per lb.	4 00
Black Rubber, per lb.	2 50	Weighted Gutta Percha, per lb.	4 00
Flexible or Palate Rubber, per lb.	2 75	Adamantine Filling or Stopping,	
Gutta Percha for Base Plates, per lb.	2 50		
Vulcanite Gutta Percha, per. lb.	3 50		

NOTE.—The above Rubbers and Gutta Perchas will be furnished in pound or half pound packages to any dentist in the country on receipt of price, and stating that they cannot get them at the Dental Depots in or near their place of business. Circulars giving full instructions how to use all of my Rubbers and Gutta Perchas, will be found in each box or package with the article ordered.

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The LARGEST and BEST SELECTED STOCK of Dental Goods in the South or West.

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An elegant stock of the

CELEBRATED SIBLEY TEETH,

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WHITE AND JUSTI TEETH,

all varieties.

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And also, for the ARCHER BARBER CHAIRS.

We call special attention to the MORRISON BROS.' Forceps, Steel Goods, Gold Foil, Amalgam, &c. Orders filled PROMPTLY.

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WATT'S IMPROVED METAL.

BETTER THAN ANY IN USE!

Six Ingots to the Pound. ***Per Ingot, $1.00.***

Printed Instructions with each Ingot.

This metal is far superior to the well-known Watt & Williams metal. It is the result of diligent research, aided by abundant leisure, and long experience in the science of metallurgy.

Watt's Metal is stronger and runs sharper than any in use, while it withstands chemical action within the mouth better than 18 carat gold.

It has no equal for lower plates, gives a much better fit than rubber, celluloid, or gold, and is a good conductor of heat and electricity. Weight is often advantageous; but if shrinkage is very great a base plate of the metal may be made, and the teeth attached to it with rubber or celluloid. Most beautiful upper or lower dentures may be thus made, and no other work has greater durability

Molds may be made in almost any flask, but a glance at the cut of the Watt Flask will persuade any one to buy it who intends to use the work.

Ask your Dental Depot for it, or send to

RANSOM & RANDOLPH, *Wholesale and Retail Agents,*
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KING'S OCCIDENTAL AMALGAM.

PRICE REDUCED TO $3.00 PER OZ.
5 oz. at one time, $2.75 per oz.; 10 oz at one time, $2.50. per oz.

This Amalgam has been before the profession in Ohio and Western Pennsylvania for some years, and all who have used or tested it, agree that it has merits over any other Amalgam in the market.

The process of manufacture differs from that of other Amalgams, and

BY A NEW INVENTION

Dr. King is enabled to obtain better results, both in regard to COLOR, SHRINKAGE and EXPANSION, than is obtained in any other alloy in the market.

Test for color consists of sixty grains of Sulphuret of Potassa, dissolved in one ounce of water. Amalgam plugs to be left in this solution twenty-four hours or more. The Occidental will remain bright after this test, and we know of no other Amalgam, at even double the price, but that will discolor. All who would use the best should buy it.

Ask your Dental Depot for it, or send to

RANSOM & RANDOLPH, Wholesale Agents,
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1883

"OHIO STATE JOURNAL OF DENTAL SCIENCE:"

GEO. WATT, M.D., D.D.S., Editor, Xenia, Ohio.

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FRENCH'S SELECTED DENTAL PLASTER

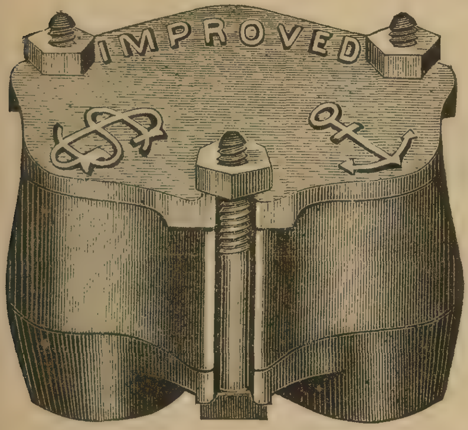
6 quart, air-tight can	$ .70
12 " " "	1.15
16 " " "	1.45
24 " " "	2.00
Quarter barrel	1.60
Half "	2.50
One "	3.50

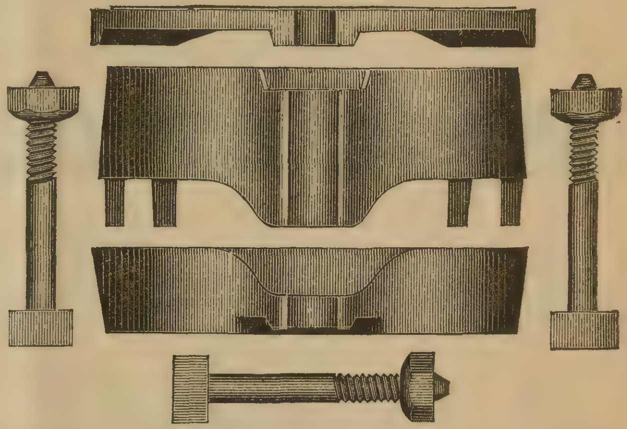
When sent by freight, porterage extra.

In ordering, state whether you wish *Impression* or *Slow Setting*. The slow setting is preferable for models and flasking.

We always send *Impression Plaster* unless the other kind is ordered.

IMPROVED GS ANCHOR FLASK





The above cut represents a Flask of our own make, it being greatly improved over the old style Anchor Flask in many respects, as follows:

It is larger in size, and much thicker, weighing nearly two-thirds more.

It has much longer guides, and is so constructed that it is impossible for the bolts to slip, thus making it the most perfect and convenient flask in the market.

Any Vulcanizer measuring 3⅞ inches in diameter, inside, will admit this flask easily.

PRICE, MALLEABLE IRON,	**$1.00,**	**postage,**	**25 cents.**
EXTRA BOLTS, PER SET,	**.25**	**"**	**free.**
WRENCHES, " "	**.10**	**"**	**"**

NO. 1 ARTICULATOR

Our No. 1 Articulator, which is here represented, is made of Brass, cast in dry sand moulds, carefully fitted in all its parts, and dipped, giving it a bright finish, making a very handsome and useful tool for the Laboratory.

PRICE, - - $1.00.

POSTAGE, 10 CENTS.

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13th & Filbert Sts., Phila., Pa.

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A FULL AND COMPLETE

STOCK OF DENTAL GOODS,

Comprising

DENTAL CHAIRS, ENGINES, LATHES,
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SPITTOONS, VULCANIZERS.

WHITE'S, JUSTI'S AND SIBLEY'S

TEETH.

We can recommend the last-named, as being the best $1.00 Tooth manufactured.

All our Goods will be found strictly reliable, and at Manufacturers' lowest rates.

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All the Leading **DENTAL GOODS** kept constantly in Stock,

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THE VARIOUS BRANDS OF

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STOPPINGS AND FILLINGS OF ALL KINDS.

RUBBER, CELLULOID PLATES, GUTTA PERCHA,
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Also, a large and varied Assortment of

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White's, Justi's,
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The large and increasing sales of the last-named make of Teeth, is sufficient to guarantee their superiority over all others of similar price. By a large number of the Profession, they are considered equal to any in the market.

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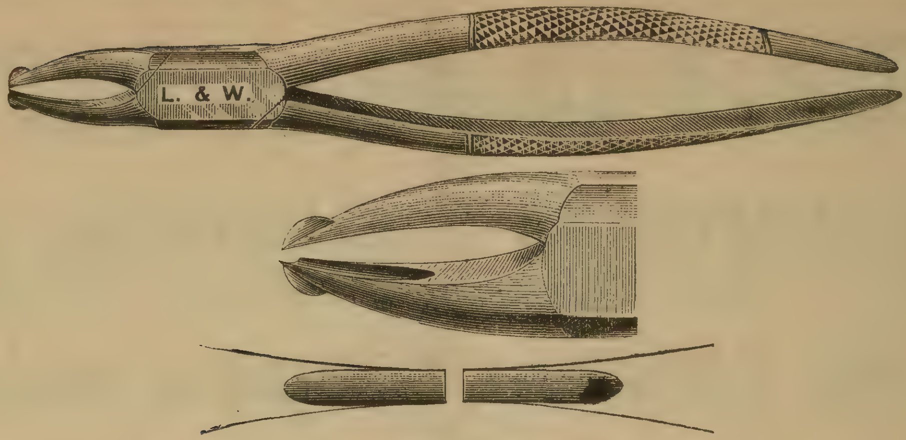

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EXTERIOR LANCE FORCEP

We quote Dr. Brigham's explanation of manner in which his Forcep i used:—"It is placed on the crown, and opened wide enough to go outside o Root and Process, then pressed in place and Root extracted, breaking no process, except what is included within the beaks. Thus freeing the cavity from all fracture process, leaving the mouth to heal much sooner."

Octagon Joint, nickel-plated, per pair, $3.00.

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DENTAL INSTRUMENT MANUFACTURERS,
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J. M. EARNEST,
MANUFACTURER OF
DENTAL FILES,
OF ALL DESCRIPTIONS, WARRANTED EQUAL TO THE BEST MADE.
Usual Discount to Wholesale Dealers.
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LAWRENCE'S AMALGAM.

This Amalgam has received the endorsement of the profession a large for nearly forty years, which would seem to render any remark as to its excellence superfluous. Price, $3.00 *per oz.*

Purchase only of reliable dealers, their agents, or of the inventor and ONL manufacturer,

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DENTAL DEPOT,

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MANUFACTURERS OF

Gold Foil, and Dealers in All Kinds of Dental Goods.

GOLD CYLINDERS.

The Round Cylinders are mostly used for old style wedge filling.

We sell ten times as many Flattened Cylinders as we do of all the rest.

STYLE A,

Flattened.

Nos. ½ 1 1½ 2

STYLE A,

Loose, and can be used as Pellets.

Nos. ½ 1 1½ 2 3

STYLE B,

Loose, but more compact than Style A.

Nos. 1 2 3 4

STYLE C,

Compact, but not hard; used as Cylinders only.

Nos. 2 3 4 5 6

These numbers are to denote that No. ½ is a half sheet of No. 4 Gold Foil, cut into strips and lled into cylinders; No. 1, one sheet; No. 1½, one sheet and a half; No. 2, two sheets, etc.

Two Patents Sept. 19, 1876. Patent Sept. 25, 1876. Patent April 17, 1877.

These cylinders are made from Soft Foil, otherwise called Accommodation Foil, and can be made hesive by annealing. The advantage over sheet foil is, that they are ready for use, and therefore save time consumed in preparing foil; also loss in scraps. As they are made from Soft Foil, and cut by chinery into strips, and then rolled into cylinders, without any handling with the hands, they are in most favorable condition for use.

In making these cylinders, our best 1000 Gold Foil is used.

PRICE LIST.

CYLINDERS AND FOIL.

Per ⅛ ounce	$ 4.00
" ½ "	15.00
" 1 "	30.00
In 2 ounce lots, per oz.,	29.00

1 oz. Troy, $3.00.

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TRADE MARK.

GOLD AND PLATINUM

ALLOY.

This Alloy is prepared under the supervision of an eminent analytical chemist, which enables us to guarantee the chemical purity of the metals used.

Having been subjected to the severest tests before offering it to the Dental Profession, it has been demonstrated that it will not shrink or expand, nor discolor in the mouth, and can be used in the Front Teeth with better results than any other Filling except Gold.

PRICES:

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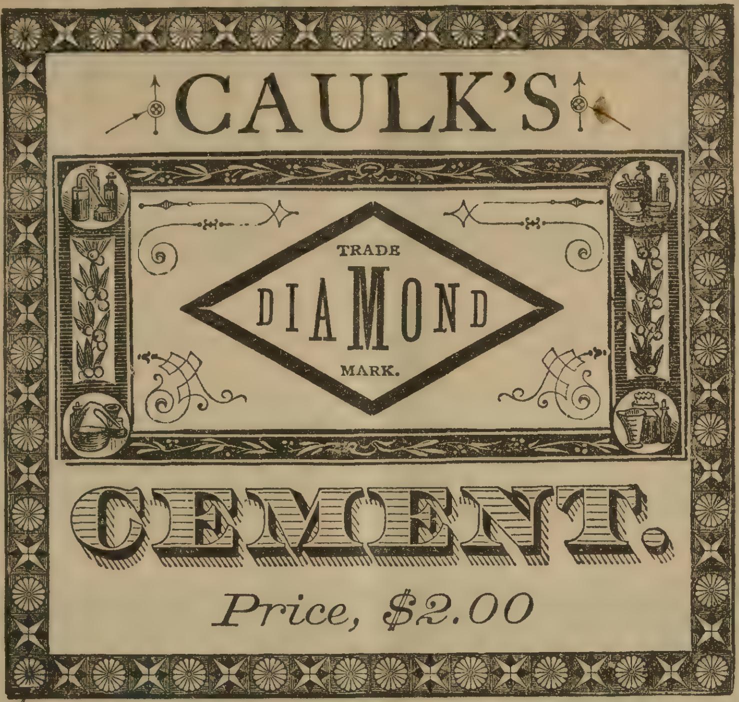

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THIS COMPOUND NOW STANDS WITHOUT A RIVAL.

From Two to Four Years' Test by Leading Dentists Throughout the World, has Proved it to be all that has been claimed for it.

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With one exception, we were the first to manufacture an Amalgam containing Gold and Platina, although we did not call it such, simply our trade name, "Par-Excellence Alloy," which fully expresses the superiority of this combination of metals over others. It has always contained the requisite quantity of these precious metals, in conjunction with Silver and Tin, mixed upon scientific principles, in their proper chemical relations to each other, to make it just what it has long since proven to be—the best Alloy for filling teeth in the market. The large and increasing sales during the past few years, have conclusively demonstrated this fact. **Price, $3 per oz., put up in 1 oz., 1-2 oz. & 1-3 oz. packages.**

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This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such materials. It is harder, tougher, and stronger; resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

Its *hydraulic* qualities render it invaluable for setting pivot teeth. It is so pliable that it can be moulded or shaped into various forms, and when crystalization is complete, can be carved and polished, same as the sculptor does his marble.

Price, large package, $3.00, small package, $1.50.

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The Stopping is put up in *sealed envelopes*, and the Pellets and Cylinders in *sealed boxes*, each bearing a fac simile of our signature.

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NOVEMBER 15th, 1883. VOL. 1.—NO. 11.

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INTRODUCTORY LECTURE BY THE DEAN OF THE PHILADELPHIA DENTAL COLLEGE AND HOSPITAL OF ORAL SURGERY.

Professor Garretson brings notes to his lectures, but seldom uses them beyond the first five minutes of his discourses, let the subject be what it may. As nearly as the substance could be secured, the following is a fair resume of what was said on the occasion of the commencement:

You have come here, gentlemen, to secure knowledge of the art and science of dentistry, and to possess yourselves of diplomas, which latter has in it this meaning, namely, that the Philadelphia Dental College recommends the holder to his community.

Individually you have paid the faculty of the college certain fees which have been accepted under an implied obligation on our part to return you to your friends accomplished in what is understood as the curriculum of the school. Necessarily, then, the relation stands thus:

1st. Unless there be dishonesty on the part of the faculty, we must possess you, before we part from you, of that for which you have come and for which we have been paid.

2d. The signification of a diploma is this: Dentistry has in it the meaning of services associated with the welfare and happiness of individual life. The Legislature of the State of Pennsylvania, appreciative of the fact that the people at large are unable, out of their own knowledge, to know whether they are being served or abused, has appointed this faculty, with its educated judgment, to stand between communities and a possible, not to say probable, abuse. The Legislature has said, virtually, to this faculty: "We appoint, and confide in you, to recommend and to endorse to our people dentists who are known to you as being fully competent to perform the services needed—*these, and only these.*

Out of the positions presented it is plainly to be understood that two things are necessary to be attained by students and faculty:

1st. That we give and that you receive, a knowledge of dentistry.

2d. That we find ourselves conscientiously able to bestow, and that you conscientiously fit yourselves to receive, the recommendations confided to us, under the imposing and sacred seal of a diploma, by the laws in which this college has its existence.

I think these introductory remarks place us on the ground of a mutual understanding.

1. On the part of a faculty, members of which take on themselves the responsibilities of teachers of students, it is duty to leave undone nothing that may have in it the meaning of accomplishment of work assumed. That teacher who in any way saves himself, his comfort, his con-

venience, his purse, as relation is had with his pupils, I must hold as one not yet covered wholly with the garments of his office.

2. The other side.—A student proposing to offer himself to a community as an almoner of great natural laws having in them the meaning of good or of evil, according as intelligence or ignorance handles them, is wholly recreant to the responsibility to be assumed where he fails to understand that his duty is to learn the duties of his office.

The Dean of the Faculty of the Philadelphia Dental College knows its members. There is not a man among the professors or demonstrators but who is imbued with love for the work that engages him. There is not a man but that labors with a determination to empty the budget of his acquirements into the budget you are here to make up. There is not a man but whose fingers will tingle with pleasure when he takes up the pen to sign your diploma.

But!—your side! Your side of the meaning of this grand and sacred purpose is to be enacted, is to be sealed in labor, in untiring labor; in thought, in exhaustive thought; in speculation, in wide speculation, before the lines are developed upon which it is alone possible that your professional names may be written; lines that are never straight, but as the work of the student makes them straight; lines that, where crooked, even if written over with ink of golden lustre, read never but irregular, to a community that looks upon them. A crooked man, try and strain as he will, cannot erect himself so as to deceive in his lack of straightness.

As Dean of the Faculty, I am directed by the power in which this office exists to come this day to so full and so absolutely a complete understanding with the class that cause of complaint or disappointment may not follow with the coming spring.

1. It is the determination of the faculty to recommend to the Board of Trustees for the degree of the college, such members of the class only as by work, by serious attention to studies, and by acquirements, qualify themselves, according to the intentions of the Legislature, to merit the recommendation confided to the judgment and conscience of the faculty by the law.

Wherever dentistry is known, the graduates of the Philadelphia College—with a few unhappy exceptions—have ranked, and do rank so high that on the benches in front of me are gentlemen influenced by this dignity to visit us from almost every section of the globe. Pride has come to rank itself side by side with conscience. The Board of Trustees, the faculty, the students, even our very worthy janitor, all have grown so proud, aye, vain of the Philadelphia College, that we want it, and *its*, to outrank everything and everybody.

I must just here, gentlemen, be allowed to interpolate an incident. The other day "Our William" said to me: "On me word, Mr. Dean, I believe this fall class of *ours* knows more already than the men we generally graduate; why, sir, the boys know everything. They talk grammar and Latin, and analysis, and tumors, and typhoid fever, and grinding teeth, and amalgam, and cohesive gold, and nitrous oxide, and Dorr forceps, and all kinds of things about A B^2 and B C^3 and C D^4 and matters like that, and the next thing I expect to hear in the laboratory is the Choctaw language."

William is an observer, gentlemen. The people of all communities are observers. Every professional man has a measure, and every non-professional man carries a measuring tape. It is worth remembering what it is that has impressed William. What it is is that same thing which will put on the stretch every measuring tape that shall be brought to bear on you, go where you will and meet whom you shall.

When I give you to understand what the faculty requires of the matriculate, I place before you simply the fulfillment of a task, to which the terms of our contract mutually obligate us.

You must be dentists, says to us the Legislature, says to us the Board of Trustees, or you must go back to your homes without a degree.

The matter is one of work. I am sorry that I cannot add that it is to be one of time. American life is fast. Babies, of a year old, are hurried into breeches. Boys marry and become fathers before their beard is grown. A tailor stretches out his legs and stands up a doctor. A student rushes into the front door of a college and scarcely stops to look fully around before snatching a diploma and getting off over the back lot—if, perchance, he doesn't take a mid-way window.

Gentlemen, fortunately we have connected with the Philadelphia College no back lot; the windows are too high to jump from safely, and not a single diploma is lying around loose.

Let us come back to the contrast. On your entering the room this afternoon a roster concerning lectures, clinics, dispensary services, hospital and class studies was handed each of you. This card is the finger post leading to graduation.

First and prominent are the dental dispensary clinics. I speak from the necessity of the service when I give you to understand that you are expected to so cultivate yourselves in practical dentistry that at the proper time you will be found able to demonstrate on the living mouth an ability to treat cases precisely as is found required in that private practice to which you aspire. To secure the votes of the professors of this department the demand will be for treatment of twelve cavities as a test case, these cavities to embrace the complications associated with operative dental practice. Besides this, it is required of you that a depositing denture be made for the museum, and, in addition, that you take such a mouth as may be placed in your charge, where artificial teeth are required, and that you prepare such mouth for such teeth, and later, that you make and insert the latter to the satisfaction of those whose duty constitutes them judges of the performance.

The means to the above ends are at your command (as the roster shows you) from 8 to 12 and from 2 to 4 every day, not counting lectures and demonstrations connected with the department, which are as continuous as it is possible to have them. Professor Dorr, Dr. Gilbert and Dr. Archer are in the laboratory and operating rooms from morning until night.

I must be allowed to put in the remark just here that the work of these gentlemen is exhausting to the last degree, and ask you not to forget that it is impossible for a man to be in two places at the same time.

Duplicative of these instructions are the lectures and demonstrations by Prof. Guilford. A course of lectures on operative and mechanical dentistry presents before the mind of the learner the subject in its entirety. What dentistry is in all its ramifications will be told you by Prof. Guilford. How dentistry is done in all its details will be shown you by Prof. Dorr.

Dentistry is both an art and a science. Teeth require medical treatment, as do other diseased organs of the human body. The field is broad—it is one filled with interest. In dental pathology and therapeutics you have the most abused and best loved self-sacrificer in the dental profession; an egg full of meat having a shell of india rubber, it will squeeze its contents out of itself and into you as surely as you afford it the chance, Prof. Flagg.

Clinical, diadactic, medico-therapeutic

teaching! What is there left? Only that is expected of you which is given into your keeping, and which is given with a measure that only a part will be asked or expected in return. This part is, however, the measure of what is known as the minimum number in examination; it will be exacted with the pertinacity with which a Shylock claims his pound of flesh.

Principles underlie practice, and are as necessary to its support as is gravitation to the holding of the globe in place. I take it on myself to say that in no medical college in this country is this matter more fully discussed and enquired into.

In mineralogy, in metalurgy, in all the complexities of the chemical composition of mortals and of the earth, we have in the school a chemist and a teacher of chemistry whose skill turns mystery into simplicity. Happy the student, the Dean wishes he could turn himself into one, whose opportunities bring him to the feet of so great a lover of the grand science as Prof. Howell.

From a cell comes a cell; end from beginning; beginning from end. Cosmos in a molecule. Toying with a particle of mud, anon striding over Olympus trying for the girth of Jupiter. Discussing with Thales the oneness of the Almighty God, and the omnipotent nature of water. Seeing in flame, with Heraclitus, the origin and sustenance of life. Fanning ourselves with air, and, with Anaximines, knowing this to be vital. Analyzing with Anaxoras. With Plato taking the mind apart. Finding with Locke a tabula rosa. Discovering soul. Losing ourselves in a study which has made many a mortal quite forget that flesh is nourished through means implying butchers' and bakers' bills. I am sure, gentlemen, that none of the hours will ever be forgotten which you are to spend with Prof. Stellwagen.

I am not to overlook the untiring work done and being done by a teacher who is valued in proportion as he is known. I desire thus publicly to express appreciation of what is accomplished for the benefit of the class by Dr. Cryer.

Neither, in my allusion to the workers, am I willing to overlook my special and particular confidant, the Professor of Anatomy and Surgery. Who values others is commonly found vain enough to imagine the existence of some trifle of regard in return. I do not overstate the thing when I say that my confidant has been excited to the highest pitch of interest by the profound attention given to what he has had to say to the attendants on the fall course, and by what has been shown him in way of result. It is by his desire, I add, that he wants it felt and understood that what is in him to give is at the class' command, in season and out of season.

It is an aphorism that old heads are not to be put on young shoulders. A word to the young hearts. The months of college life roll by rapidly, never to return. Be influenced. As lost opportunities stare you in the face, have much to stare back with. There is another familiar saying—"Oh, that I could know when I was young or do when I am old." But time does not turn around and come back to us. A man cannot do when he is old. But can he not know when he is young? Well, at any rate, he has ears with which to hear; ears which, as the meaning of the present occasion is concerned, must hear; or, if remaining persistently closed, must bring as a result, mortification to self, and grief to the hearts of the home friends.

Happily, the faculty has the September experience with which to replace a possible dark picture. Speaking as an individual of the faculty, I am fully convinced that if our mutual interest and industry are maintained, the first day of next March will see gathered on the stage of the Academy of Music the most learned graduates from this college who have ever received the ovation of proud and happy relatives.

There seems, gentlemen, little left to say. Remember! remember in the morning! remember at mid-day! remember at night! Remember there is a needed preparation for a coming spring. Remember there is a life-work which the immediate future before you, as studies are concerned, is to render pleasurable or painful.

Two of the best lines that I have met with in my life reading are as follows. I think a memory of them may profitably be carried home, and that the words may wisely be transferred into a note book that is often to meet the eye:

> "That you are happy, owe to God;
> That you continue so, owe to yourself."

A thought conveys the same idea in prose:

"Men are not to bite their hands, and afterward blame their teeth for the hurt."

The lecture occupied over an hour in its delivery.

NEW SERVICEABLE METALLIC ALLOYS.

Three new metallic alloys have been recently introduced, which seem fitted to serve as substitutes for bronze, imitation gold and imitation silver. Delta, a bronze made by Mr. Alexander Dick, of London, is a compound of iron, zinc and copper, the proportions of the ingredients being varied according to the color it is sought to obtain, and has the advantages of extraordinary tenacity and flexibility. It can be beaten and forged, and drawn when cold, takes a perfect polish, and, exposed to the air, is less liable to tarnish than brass. Aphthite is a "gold" which does not change, and is composed of eight hundred parts of copper, twenty-five of platinum, and ten of tungsten. Its shade of color may be changed by varying the proportions of its constituent metals. Sideraphthite is a similar "silver" metal, and is composed of sixty-five parts of iron, twenty-three of nickel, four of tungsten, five of aluminum and five of copper. These alloys are capable of resisting hydrosulphuric acid, are not attacked by organic acids, and are only slightly attacked by inorganic acids.

THE PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

The Pennsylvania College of Dental Surgery opened its regular winter session October 1st with a short Introductory from Prof. C. N. Peirce. The class appeared larger than is usual at the initiatory exercises. The address, which was of a general introductory character, was listened to with attention, and if the students will but heed the admonitions contained therein they can but be benefited. After a few preliminary remarks, the Professor told them that an education in dentistry was what most concerned them at this time, and the requisites for acquiring this are such as are necessary to the acquisition of a knowledge of any other occupation or specialty, viz., intelligent industry and devotion to the purpose. In our earliest education he said we are trained to acquire those little arts which are helpful in maintaining the economy of the household. Following this are the efforts to stimulate a craving for a knowledge of the unknowable, and to arouse or excite a curiosity which grows stronger with the revelation of each successive mystery. It is the same to-day in every department of science; the stimulus to activity is the desire for that which is hidden, with strength and encouragement accompanying each successive acquisition. In this fact you recognize and appreciate the natural activity of the human mind; indeed, it is rarely at rest; but for its healthy and profitable growth, it must have something to work upon, and while it must be the care of your teachers to supply the food which it needs at this particular time, it will be yours to remember and appropriate. Strength of memory depends on attention, and attention upon interest. If you have not this, so as to pursue your studies with freshness and vigor, you will make but little progress. The science of dentistry, like that of general medicine, is the theory of disease and of remedies. Disease is a deflection from the line of health, and the first requisite in its proper treatment is an intimate and extensive acquaintance with the normal condition of the organs, their tissues and functions, the treatment of which is embraced in the practice of this special science. For this purpose you have entered an institution which has passed beyond its embryonic condition, and the opportunities which it will offer you are those of which many older ones in the profession have sadly felt the need. These privileges will make you, if your time be judiciously occupied, successful rivals for the confidence and patronage of the public; remember, though, that an earnestness of purpose, a healthful enthusiasm, a hope and faith in the near future, are all important factors in stimulating your progress towards this happy result. The present day is propitious for study and professional life. During no time in the past has our occupation had more friends or a wider field, at no time has the *dentist* had a better opportunity for satisfactory compensation, and now, while society at large is offering better remuneration for the labor of the skilled artisan, in return a more liberal education and greater proficiency are demanded. As time, growth and development differentiate and specialize animals and plants, so do they institutions and occupations, and the skill and success which is so marked in our profession are largely due to this specializing process. The establishment of schools in which this branch of the healing art is the prominent and prevailing feature, all of the instruction therein given being either directly or collaterally related thereto, has been an important step towards attaining proficiency in the profession.

Following the above was given a description of the oval cavity, with its varied structures and their functions, as well as the pathological complications to which these were liable.

In speaking of knowledge essential to a scientific dentist, the importance of dental anatomy and dental histology were fully recognized. The average dentist of the past knew little or nothing of the presence of living matter in a tooth, nor of the recuperative power which it was capable of exerting. The profession at large remained for many years apparently in contented ignorance of the constitution and nature of the tissues upon which they daily worked, but this state of things is rapidly passing away. Science in dentistry is becoming a fact. It has reached in this country its greatest perfection in technical work, and we trust and hope that we also possess the will and the brains to raise the theoretical and scientific position of the profession to a like elevation. In order to do this, it is incumbent upon every student to qualify himself to do something towards this end; if you cannot yourself undertake original investigations, you can give encouragement to those who do by making the effort to inform yourselves so as to hold an intelligent view of the researches of others. A definite outline of the course of study to be pursued in the coming winter session was given, followed by a tribute to the late Prof. T. L. Buckingham. If the inauguration of the term was a criterion, we bespeak for the school a successful winter's work.

OUR grand business is not to *see* what lies dimly at a distance, but to *do* what lies clearly at hand.

PAST, PRESENT AND FUTURE.

By the request of the editor of this journal, I have been contributing from time to time a few articles on mechanical dentistry, showing the methods which I have found, in my own practice, to be the best for me. Thinking they may be as useful to others as myself, I give them to the dental profession for what they are worth. They have been hastily written at odd times, as I could snatch time from my business; not intended to be scientific, but practical articles explaining as minutely as possible—without the aid of engravings—the various manipulations necessary in manufacturing dental substitutes.

I have been further induced to throw these articles together by entertaining the hope that, by their circulation through the country, they may reach the eyes of those who need them most; and, probably, thus incite a fresh interest in this the most neglected part of the dental art.

Those dentists who are old enough to remember the time, before the advent of rubber as a base, can bring to mind numbers of practitioners who made a specialty of mechanical dentistry, specimens of whose work were marvels of skill and beauty. The same can be done again. We have plenty of intelligent and skillful men in the profession, who, if they could be persuaded to apply their minds to the subject, would produce the same style of work, and, most undoubtedly, would be appreciated by the better educated and more wealthy class of their patients.

I think, to the general adoption of rubber as a base we may justly blame, primarily, the shocking condition of mechanical dentistry of the present day. I believe any dentist of fair practice will agree with me, that he sees the evidence of this nearly every day in the mouths of transient patients; pieces of improperly constructed, poorly fitting and roughly made dentures, showing such a want of judgment, intelligent design and manipulative skill that is disgraceful to the profession.

From the above, I don't wish to be understood to mean that rubber ought not to be used; on the contrary, I believe it to be, in a good many special cases, the very best; but what I want to urge is, a more intelligent and skillful use of it as a base. In some parts of the interior—and not far from our large cities, either—metallic bases for teeth are almost unknown; to them, plate work has become a lost art.

The easy adaptability of rubber as a plate, doing away with the alloying, melting and rolling of gold, the casting of metallic dies, stamping of plates and their nice adjustment to the plaster cast, is the frequent cause of the preference for the plastic material. Its construction being so simple, leads to the employment of incompetent assistants, whose want of judgment and taste produces so many of those contrivances justly called *store teeth*.

The desire on the part of the majority of the profession to avoid laboratory work and relegate their duties to the hands of incompetent men and boys, together with the apparent acquiescence of the people with this inferior work, has produced a disgust in the minds of some of the profession, leading them to condemn the mechanical as not fit for association with the operative branch.

This is manifestly unjust, for there is a larger field for the exercise of the inventive and artistic faculties of the mind in this than in the operative department, and calls for a wider range of education. This can easily be proved by the enumeration of the qualities necessary for its complete accomplishment.

There ought to be a thorough and practical understanding of the laws of mechanics—e. g., the law of leverage; this is frequently overlooked. How often we see bicuspids and molars in an upper set, placed on the *outside* of the gum instead of directly on it,—the teeth the lever—gum the fulcrum, and mastication causing the plate to bend, and ultimately to crack through the centre, or if thick and strong enough to resist this, becoming unwieldy by constantly tilting, and, finally, are unreliable and useless to the owner.

Without a good mechanical knowledge how can the workman judge of the construction and qualities of his tools and instruments. Unless they are correct in every particular, he works at a great disadvantage. The forging, bending, filing, hardening, tempering and polishing ought to be well understood; in fact, he ought to be a good instrument maker.

The laws of chemistry are in continual demand. A knowledge of the composition and qualities of the various materials that enter into the manufacture of a set of teeth, is absolutely necessary, that the selection may be the best adapted for the purpose used.

The artistic claims as much attention as any other. If a dentist knows little or nothing about colors, how can he select the proper shades to harmonize with the complexion and age of the patient? Very few dentists know anything about the primitive colors or their combinations, and, to all intents and purposes, might as well be color blind.

The artistic eye is again needed in the shapes of teeth. An artist would never select a long, slender tooth for a large jaw, just because the patient informs him that her own teeth were very small and white. The position of the front teeth has as much to do with the expression as the shape and color. If they incline to the centre too much, or not enough, too long or too short, it will spoil the harmony of the features.

To look at the rubber blocks made for sale, the artistic observer would think that shape never entered into the head of the maker—that outline, profile and individuality were not necessary; all that was wanted was a mass of bright yellow, blue or white for the teeth, pinkish enamel for the gums.

If time permitted, I could still farther enlarge the qualifications necessary for the mechanical dentist, but enough of them have been mentioned to convince the most thoughtless that the field to be occupied by the coming dentist is a very large one, and to be fully occupied would claim the close and unremitting study of three times the number of years generally given to it.

W. R. Hall.

MEMORIAL.

An invitation to a "Memorial Meeting," under the auspices of the dental societies of Philadelphia, in honor of, and in respect to, the memory of Prof. Thos. L. Buckingham, was tendered to the professional friends of the deceased in the city, and to many of the dentists of the United States, and the same was convened in the hall of the Pennsylvania College of Dental Surgery, corner of 12th and Filbert streets, on the evening of October 30th, 1883.

A motion made by Dr. Wm. Breen, duly seconded, that Dr. Daniel Neall take the chair, and a motion from Dr. E. C. Kirk requesting Dr. Theodore Chupein to act as secretary, were unanimously adopted.

Dr. Neall opened the meeting with a few appropriate remarks, after which a motion was made, seconded and carried, that the chair appoint a committee to draft suitable resolutions. The chairman appointed the following gentlemen on this committee: W. H. Trueman, E. H. Neall, Ambler Tees, E. C. Kirk, Spencer Roberts, I. H. Githens, T. F. Chupein and H. M. Sheppard.

While the committee retired to attend

to the duty assigned them, several letters were read from among quite a large number, which had been received from dentists from different parts of the country, eulogizing the many virtues of the deceased and expressing their regret at being unable to attend the meeting.

On the return of the committee the following preamble and resolutions were read and offered by its chairman, Dr. W. H. Trueman:

WHEREAS, It has pleased Almighty God in His great omniscience to call from our midst our friend and brother, THOMAS L. BUCKINGHAM, and

WHEREAS, By his removal the students under his charge, and especially the dental profession, have sustained a severe loss, all of whom acknowledge the privation to which they are subjected both in their professional and social intercourse with him, and

WHEREAS, The members of the Pennsylvania Association of Dental Surgeons, the Odontographic and the Odontological Societies of Philadelphia, having spontaneously met together to pay a tribute of respect to his memory, and to place on record the deep feelings of sorrow which his death has occasioned, as well as to express their humble submission to the *Fiat* of the Most High, which admits of no recall, therefore, be it

Resolved, That in the death of Prof. Buckingham the dental profession loses one of its earnest and faithful workers; one who for many years has devoted his time, talent and means to advance its general interests. His labors in the laboratory,—beginning almost with his first entrance into the profession and ending only with his death—endeavoring to solve the various questions that have from time to time occupied professional thought, his many carefully conducted series of experiments which have enabled us to work with more ease, certainty and intelligence, and his numerous contributions to dental literature are a legacy to the profession we accept with grateful appreciation.

Resolved, That his long service as a dental instructor, beginning with the first dental faculty organized in Philadelphia, and continuing without interruption for thirty-two years, is a recognition of his ability as a teacher that we emphatically endorse.

Resolved, That his liberal and tolerant spirit, his cordial greeting and his genial disposition, endeared him alike to the students whom he taught and to all with whom he mingled.

Resolved, That the city of Philadelphia has lost a valuable and upright citizen, and each one of us an acquaintance and friend whom the more we knew of him, and the riper the intimacy the more we recognized his sterling worth, his kindly disposition, his social qualifications, and all those endearing attributes which go to make up a good, true, and noble man.

Resolved, That to the young in our profession his loss will be especially severe, as his fund of knowledge and mature judgment, together with a willingness to impart information, encouraged the humblest and most timid to seek his counsel; that gaining information by his own hard labor, he felt it a pleasure to aid others in its acquisition; and in doing this, making the recipient feel as if *he conferred* rather than received the benefit.

Resolved, That we, fellow practitioners, together with the faculty and students connected with the Pennsylvania College of Dental Surgery, mourn his loss with a regret no words can express.

Resolved, That we tender to his family our heartfelt sympathy, and that a copy of these resolutions be forwarded them as a token of our condolence.

Resolved, That these resolutions be published in the dental journals and in the *Public Ledger*.

The resolutions were warmly seconded with many touching and eloquent remarks by Drs. Edwin T. Darby, J. D. White, Thos. Stellwagen, J. L. Eisenbrey, M. Cryer, Spencer Roberts, Hayhurst, W. H. Trueman, David Roberts, W. F. Litch, C. N. Pierce, James W. White, James Trueman, S. H. Guilford, and Dr. Dwinell, of New York, the President and others.

The meeting was in every way harmonious and respectful, and an air of ineffable sadness seemed to pervade it.

On being put to the meeting the preamble and resolutions were unanimously adopted.

A motion, duly seconded, was made and passed that the resolutions be engrossed and sent to the family in this form, after which the meeting adjourned.

THEODORE F. CHUPEIN,
Secretary.

The Dental Practitioner

CHAS. E. PIKE, EDITOR, 1415 WALNUT ST.

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SUBSCRIBE NOW FOR 1884.

Perhaps it would not be out of place at this time to inform our readers somewhat regarding the future prospects of THE DENTAL PRACTITIONER.

Less than a year ago our little craft was launched, with many feelings of apprehension least it should not be a success, yet with a strong determination to make it so if possible. The many expressions of encouragement which we have received, together with the steady growth of its subscription list, (far beyond our expectation) are substantial assurances that our efforts have been appreciated.

Being thus encouraged, the publisher has determined to do even more for his patrons for the coming year. The journal will be inclosed in a neat cover, and will contain at least eight pages more of reading matter, *while the subscription price will remain as at present, 50 cents per year.* This very low rate precludes the possibility of offering premiums, but we shall endeavor to make each issue a prize in itself. All new subscribers sending 50 cents before the first of January, 1884, will receive the November and December numbers free.

Fill out the inclosed blank and return with the subscription price to

GIDEON SIBLEY,
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WE can never go back, but there is not a point from which we may not go upward.

HAVE WE TOO MANY DENTAL COLLEGES?

Since calling the attention of our readers to the above question one month ago, we have received many communications and comments upon the subject, which more fully convince us that the position assumed was the correct one.

From professors in dental colleges, from well known practitioners, and from *students,* have we received such expressions as assure us there is a strong current of popular favor already in motion and ready to surge toward any two institutions which shall take the initiative in this important matter. So strongly does the idea of consolidating our dental schools seem to be approved, that we believe, if the question could be put to a vote before the dental profession throughout the country, it would be decided in the affirmative "by a large majority."

We have received such expressions as these: "A timely article; give us another;" "keep the ball in motion;" "you could not have opened up a more important subject—don't drop it yet," etc., etc. We painfully feel our inability to handle the subject as its importance demands, but if some of those gentlemen who have privately expressed their approval of the ideas conveyed in the article referred to would *publish* their opinions, it might lead to such an awakening on the part of "those in authority" that the *necessity* for the suggested changes would be *recognized* and *acted upon.*

We prophesy that the first institution which shall be formed by the union of two schools, will thereafter be *the* dental college of the world. Which shall it be?

SOMETHING GOOD IN STORE FOR US.

About the first of January a fourth edition of Garretson's Oral Surgery is to be ready. Extensive additions are said to have been made both in the way of new chapters and supplements to the old.

Some sixty new illustrations, many of them original with the author, and expressive of his surgical performances, are to appear. The chapters are said to represent a condensation in the way of literary work, which leads the publishers to infer that the pages will be found unique in such direction.

Besides this condensation, over two hundred pages are added to the volume; this last, quite a book in itself. A chapter on inflammation and another on diagnosis are written out of the author's wide experience from a purely philosophical standpoint.

Prof. Garretson is an indefatigable and progressive worker, and we take pleasure in announcing to our readers that additional fruits of his labor are soon to be placed within their reach.

DIFFICULT DENTITION AND THE USE OF THE GUM LANCET.

BY J. MORGAN HOWE, M.D., M.D.S.

Primary dentition has long been regarded as a cause of many infantile ailments. This view, based largely on clinical observation, has been that of some of the most eminent physiologists and practitioners, and has come to be so commonly accepted that it is quite probable that the origin of many disturbances has often been falsely attributed to teething, as it furnished a convenient scape-goat for indolence and ignorance. A just antagonism of the evil has perhaps been the pendulum rod on which some have swung over to the conclusion that it is all a mistake to suppose that so simple a process is capable of producing any serious disorders of nutrition, or of functional activity; and to fortify this position the fact that *dentition is a physiological process* is set forth, with apparent confidence that it should be sufficient to convince all disbelievers in this opinion. Although the use of this truth as basis for an argument has had force or plausibility enough to have caused its repetition by several writers, it hardly seems to be conclusive, and we propose to offer some facts and suggestions as reasons for believing that the deductions of so many, reached by clinical experience, that dentition is a cause of nervous irritation and of numerous reflex disturbances, is not a mistaken one; and in doing so, we quote from two writers who, from their position and special dental knowledge, may be the more likely—if their views are erroneous—to mislead.

In an address on "Oral Surgery" before the American Medical Association, 1882, Dr. D. H. Goodwillie, in deprecating the fact that teething has often been given as the cause of death in mortuary certificates, says: "Alas! a normal physiological process the cause of death. If first dentition in the child is the cause of death, why not carry it through the process of second dentition, which lasts nearly to adult age? Perhaps it might be found that malaria, smallpox or some of the other diseases, lie buried in the jaws." And Dr. W. C. Barrett, in an editorial in the *Independent Practitioner*, March, 1883, says: "About the time when the molar teeth are in process of eruption, digestive ills of all sorts attack the child, and to the mere physiological process of cutting the teeth is attributed the flatulence, diarrhœa, convulsions and death, etc." * * * "Digestion and assimilation being properly performed, there is nothing in the mere process of the eruption of the teeth which can cause any serious disturbance. Nature has provided for the absorption and disappearance of the tissues covering the growing teeth without any febrile symptoms, any diarrhœa or nervous convulsions;" and again he says: "The gums and investing tissues have not such an exquisitely nervous organization, are not so thoroughly supplied with nerve fibers as to produce any grave disturbances by the mere force of an advancing tooth. There is little or no sensitiveness in the raised gum. Pressure over the coming tooth is not annoying to the infant; on the contrary, it often seems grateful. Whence then this idea of dangerous reflex nervous disturbances?"

It seems to have been Dr. Goodwillie's intention to ridicule the idea of dentition ever being a cause of death, basing the assumption of its absurdity on the fact that it is a physiological process, which he calls normal! Whether he meant to assert that it is always normal may be doubted. If that were true, it would be of value to the race as well as to his argument; if it is admitted that it is not always a *normal* physiological process, it would be interesting to know of how many other human physioiogical processes the claim would be made, that they could not be the cause of such irritation and disturbance as directly or indirectly to cause death. All the tissue changes and movements involved in the developmental processes of the human animal are so frequently attended with more or less manifestation of abnormality, that it is difficult to perceive why any one should assume that dentition is exempt from anomalies which so commonly cause other physiological processes to produce serious derangement of the system. Merely to mention gestation and parturition, is to call to mind morning sickness, eclampsia, post partem hemorrhage, and various other complications. There is abundant reason for regarding dentition as similar to these processes, in that it makes great demands upon the vitality of the subject, and that its expression is one of irritation during a considerable portion of its continuance. One of the earliest signs of the advancement of the partly calcified developing teeth, is increased salivation—drivelling; it is as rarely absent, perhaps, as the morning sickness of pregnancy, and seems, without doubt, to be the result of gland excitement, through the irritation of afferent nerve filaments in the tooth pulp. This phenomenon, generally accompanied with fretfulness and signs of pain, makes its appearance at the time (fifth to sixth month) * when the developing incisor teeth would be advancing toward or into the orifices of the alveolar crypts, the margins of which should be enlarging by absorption to admit of their passage; but in case of irregularity of the eruptive force, and lack of corresponding absorption of the obstructing tissues, pulp irritation would necessarily ensue. And we may well suppose, with any such anomalies, a greater or less degree of local hyperæmia. Similar reflex excitement of the salivary glands, by irritation of the filaments from the trigemini in the tooth pulp, is witnessed daily in the dental chair, the saliva being frequently thrown out in jets, upon instrumental or other irritation of the dentine, or dental pulp; and it is equally patent that dental irritation of whatever kind is generally attended with increase of salivation, the glands being excited much more readily by irritation of nerve filaments distributed to the deeper parts, than of those in the gum tissue, for the latter, as Dr. Barrett says, "have not such an exquisitely nervous organization."

In turning the attention to the development and eruption of the permanent teeth, we find no such disturbances of the system as have been generally attributed to teething in the infant subject; the conclusion is therefore not unnatural, that first dentition is not the baleful process it has been called. We think, however, it is sufficient to call attention to the fact that the period is one of peculiar susceptibility to derangement of the harmony of vital processes, from any cause. The liability of the alimentary tract to irritation from slight variations of food, from thermal and atmospheric impressions, is indicative of the liability of all the organs and tissues of the body to be disturbed by predisposing or immediate influences, so that anomalous movements in the physiological mechanism are more likely to be produced, and to disturb the system when they occur. Dr. Barrett attributes to injudicious feeding almost all the ailments that have frequently been considered due to teething. It is one of the most common and important causes of infantile ills, but we think dentition is perhaps as common, and is equally as important a factor in producing those well known disturbances which so frequently endanger life at this time.

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*Tome's Dental Surgery.

There are occasional instances in second dentition, during the efforts of nature to erupt the third molar, especially of the inferior jaw, of irritation which differs, if at all, only in degree from that which is commonly produced by the eruption of the deciduous teeth. This has occurred sometimes under our own observation, when, neither at the time nor after the appearance of the tooth, could any unusual position of the growing tooth or of surrounding parts be discovered, and no reason could be assigned, except a lack of absorption of the superimposed mass of gum tissue, in response to the probably too fitful and irregular pressure of the tooth. Such irritation is, however, more frequently observed, when (1) the space between the posterior surface of the second molar and the compact bone of the ascending ramus is insufficient for the passage of the crown of the third molar, or (2) when the latter tooth is tipped anteriorly, so that its progress is arrested and the eruptive force is expended on the posterior surface of the second molar. Such complications are not very uncommon, and from them frequently arise reflex neuralgias of the severest nature, often with fever. Without detailed subjective symptoms these cases would afford fruitful ground for difference of opinion, for in many there are no local indications of inflammation, either of the soft tissue around the developing tooth or of the second molar, and no soreness of the gum or of the growing tooth to pressure; and in other cases, principally those referred to, even when a considerable degree of inflammation in the soft tissues is present, the local conditions seldom if ever appear adequate to an explanation of the severe reflex neuralgia from which the patient suffers. We would be very likely to look elsewhere for a cause of such violent distress as frequently occurs, rather than to a developing tooth, if the patient's own apprehension of the cause were taken from us. During first dentition we have no subjective symptoms to aid us in the formation of diagnoses, and these cases of difficult eruption of third molars may well be considered fair illustrations of the irritation possible from all impeded dental growth. Neuralgia is generally the form of greatest suffering in these cases of anomalous wisdom teeth, the pains often extending to the head and neck, and sometimes to the arms, although it is not confined to this, for the nutrition of other organs and tissues may be disturbed. Among those who have observed the phenomena produced by these anomalous teeth of second dentition, there are probably few who have regarded the irritation of the obstructing tissue as the cause of the most serious symptoms; the majority would be likely to attribute the disturbances to their true cause, viz.: *pulp irritation.* There seems to be abundant reason for regarding the pulp as the point of irritation of afferent nerves when reflex actions are produced, whether it occur through obstruction to the growth of a wisdom tooth, or the deciduous teeth. In the latter it is quite true that there is no anomaly of arrangement worth considering, and "nature has provided for the absorption and disappearance of the tissues covering the growing tooth," but we see no more reason for claiming that this is accomplished in perfect ratio with all the other movements involved, than that all other physiological processes are accomplished in a perfectly normal manner. When the possibilities, in the direction of nervous disturbance, from an irritated pulp are considered, argument against dentitional irritation, because the gum is not an exquisitely sensitive tissue, seems hardly convincing. When the susceptibility to derangement and to nervous irritation of the infant be considered, the pulp irritation of anomalous wisdom teeth may, we think, give us some light on the sufferings sometimes endured by the little ones. The irritation so frequently produced by first dentition begins, as we have endeavored to show, at an early period, and may cause serious reflex disturbances at any time thereafter. The emesis, diarrhœa, and convulsions of this period, are of course liable to be produced by other causes, but the clinical experiences of numerous competent practitioners have been amply sufficient to confirm the old opinion, that these phenomena are often due to dental irritation, so that the conclusion will hardly be disturbed by argument based on the fact that dentition is a physiological process, nor by negative testimony from those who have not observed such ailments under circumstances which have convinced them.

It must be admitted that positive and satisfactory diagnoses are not always easily formed, but the difficulty is probably not greater in these cases than in most others where subjective symptoms are wanting. There are many instances which appear to indicate dental irritation so clearly as to hardly leave room for doubt. Such are those in which nursing infants occasionally give sudden manifestations of distress, with gastric, intestinal or cerebral disturbance, without other assignable cause; there is increased salivation, and the child not unfrequently indicates in various ways that the seat of pain is in the mouth. All this is much more likely to occur in the case of infants who do not nurse, but it cannot fairly be attributed to improper feeding when the child has been thriving on the same food up to the period of such disturbance. Such cases have occurred, and are appearing more or less constantly, with numerous variations of circumstance. The literature of this subject is very meager, but Dr. Sam'l Sexton * has called attention to the fact that some aural diseases have their origin in dental irritation by reflex action, and has graphically shown how this takes place through the Otic ganglion. He has clinically recognized the fact that the processes of dentition, especially of the deciduous teeth and the wisdom teeth, often cause this irritation, as well as dental caries, peridentitis, and alveolar abscess.

It is not our present purpose to endeavor to indicate the avenues by which the numerous reflex actions from dental irritation are accomplished; they are probably often of a very complicated nature, but I will merely call attention to the direct connection of the trigemini with four ganglia and one plexus of the sympathetic system, whose controlling influence over vascular supply and gland action is so well recognized, and to the comparatively simple manner by which cerebral circulation may be influenced through the vaso motor nerves of the internal carotid artery and its encranial branches, through the connection of the fifth pair of nerves with the Otic ganglion and the carotid plexus.

The treatment of cases giving evidence of difficult primary dentition should of course be governed by a careful consid-

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* American Journal Medical Sciences, January, 1880; also circular of information of the Bureau of Education, No. 5, Washington Government Printing Office, 1881.

eration of that process itself, as well as the character and severity of the symptoms manifested in each individual case.

Whatever means give reasonable promise of adding tone to the system, may cause the disappearance of reflex symptoms, whether produced by dental irritation or other causes. Hygienic measures, especially if these have been neglected, are always to be considered. High temperatures have a general debilitating influence, and on this account reflex phenomena are more easily provoked under these conditions, a change of location giving lower temperature and other favorable circumstances often proving beneficial.* Change of diet may be indicated, and therapeutic measures judiciously directed to meet the symptoms of the case will often be all that is needed to cause the latter to subside, and enable the processes of development to progress more harmoniously.

There are instances, however, in which all such means are insufficient, affording at best but partial and transitory relief; the child gives frequent evidences of oral suffering, or of nervous irritation by reflex disturbances; in some such cases the gum lancet affords the means of rendering the most prompt and efficient relief. Its use is clearly counter-indicated in such early stages of teething as when the advancing teeth are probably obstructed by alveolar tissue, but when the enlarged gum indicates both to sight and feeling the presence of the tooth beneath it, when the former tissue has a tense appearance (whether it is sore, swollen and red, or not), with the disturbances before referred to, which more general treatment has failed to relieve, a free incision through the gum to the tooth, with a sharp lancet, will in most instances be promptly followed by very marked amelioration of all symptoms of irritation. We have repeatedly performed this trifling operation with such salutary results, in very few instances without them. The ineffectual use of the lancet may prove a mistaken diagnosis, or that the irritation proceeded from teeth less advanced in development than those released by the incision; it does not prove that dentition is incapable of producing irritation which may, through reflex action, endanger life. The instances, however, in which gum lancing is not followed by relief, when it has been indicated by the conditions and symptoms, are so rare that it may be regarded as one of the most certain and effectual of minor operations, and, so far as we know, is contra-indicated only by a hemorrhagic diathesis.

The objection, urged sometimes, that the gum will be made much harder (if it should heal) by the formation of a cicatrix, and the temporary relief hoped for be followed by an aggravation of the difficulty of absorption of the gum, is invalid, from the fact that a cicatrix is not found after gum lancing, and if there should be a formation of cicatricial tissue it would absorb more readily than the primary tissue.

The valid objection to the lancing of the gums of teething children is the "almost indiscriminate" practice of it, which Dr. Barrett believes is "falling into disuetude." There are probably few who will not be glad with him, and hope that all other practices that approach the indiscriminate may find the same limbo; but judicious gum lancing, practiced with discrimination and judgment, not for the purpose of depleting a congested gum but to release an imprisoned or obstructed tooth, is both reasonable and commendable, and its value should not be overlooked.

Cases of obstructed eruption of wisdom teeth often demand local treatment.

Those whose position in the angle between the body and ramus of the jaw causes them to be covered with a mass of soft tissue, which is not absorbed sufficiently to prevent it becoming inflamed by the pressure of the growing tooth and of antagonizing teeth in the superior jaw, may be made less troublesome by proper lancing, but permanent relief is only obtained, in many instances, by the removal of the tooth for which nature has failed to provide a place.

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* (Brown-Sequard, Cayrade). Kuss Lectures on Physiology, p. 54.

Extraction must also frequently be resorted to when neuralgic or other disturbances arise through obstruction of the wisdom tooth by the second molar, or by the latter together with the maxillary ramus, or when the former is tipped forward so that its progress is arrested by the second molar. When the third molar occupies so nearly a horizontal position that the crown is in contact with the neck of the second molar, the extraction of the former is often an impossibility, without resorting to an entirely inexpedient operation, and in such case the removal of the second molar, the obstructing tissue, must be chosen as the least evil.

But wisdom teeth, placed anomalously in the maxillæ, not unfrequently attain to complete development before meeting in their advance such resistance as to cause pulp irritation with local and reflex disturbance, and as interference is not demanded, it would unquestionably seem to be a blunder.–*Independent Practitioner.*

An improvement on the Bunsen cell, by M. Azapis, consists in substituting for the acidulated water a solution of about fifteen per cent of cyanide of potassium, caustic potash, common salt or sal-ammoniac. The intensity in the new form is as great as in Bunsen's, and the advantages are, greater constancy, less waste of zinc, and very little smell; further, the zinc does not need amalgamating.

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The rubber being of sufficient thickness, there is no excess of material to press the blocks apart in gum teeth, and there are no "dark joints" to look unsightly, and therefore no frail gums to fracture, as in the old way of pressure packing.

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In the feature of repair work, the ease and rapidity with which it can be done will commend itself to those who practice the old way.

Where weight is given to a lower plate, the addition of a heavy piece of block tin [curved to conform to the arch] is imbedded in the rubber and so protected from exposure that the plate presents only a rubber surface when finished adding strength as well as weight.

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☞ In the above circular I had in view of calling upon the profession in person or by agency. Allowing the time and expenditure, the additional cost would fall upon the dentist. Therefore, through this medium, the journals, I hope to reach a greater number at less cost to the dentist. And also give the fullest instructions with diagrams and explanatory notes, so that any ordinary operator in vulcanite or rubber work can perform the *packing* in a few trials with good results, while those that are proficient would have no trouble after the first effort.

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We always send *Impression Plaster* unless the other kind is ordered.

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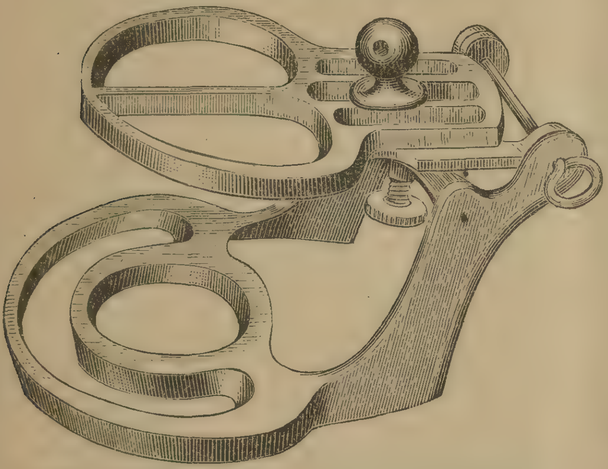


Our No. 1 Articulator, which is here represented, is made of Brass, cast in dry sand moulds, carefully fitted in all its parts, and dipped, giving it a bright finish, making a very handsome and useful tool for the Laboratory.

PRICE, - - $1.00.

POSTAGE, 10 CENTS.

GIDEON SIBLEY,
DENTAL DEPOT,
13th & Filbert Sts., Phila., Pa.

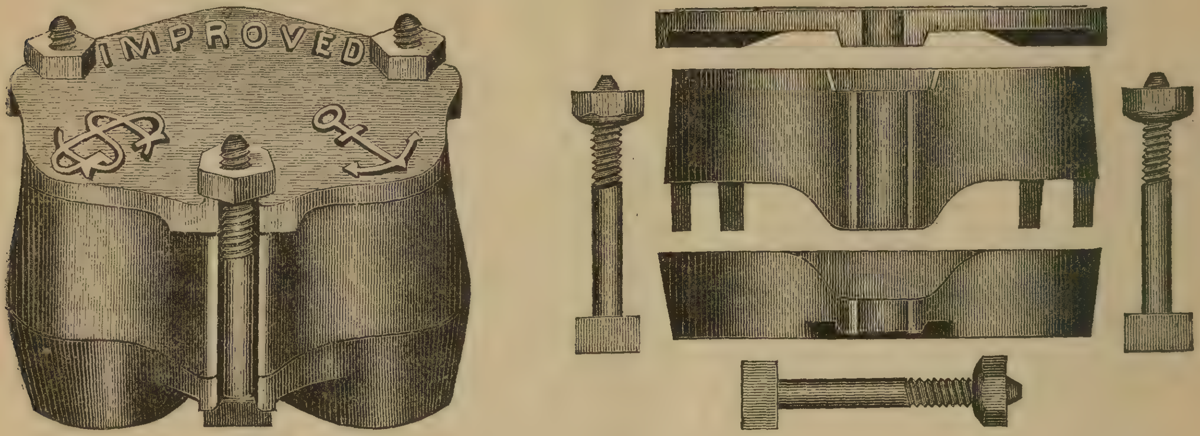
SECOND-HAND
AND
SHOP-WORN GOODS

ONE OILED WALNUT CHAIR (upholstered in Crimson Plush), footstool and spittoon stand, in fair condition	$20.00
A NEW 75-GALLON GASOMETER, Galvanized Iron, and fitted with iron pipes inside; also a generator, retort, 5 feet rubber tubing, and mouth-piece, all new (used but once)	25.00
One "Snow's Standard Saliva Ejector," complete, (slightly shop-worn)	13.50
One OILED WALNUT SPITTOON STAND, S. S. WHITE PATTERN, (Oval) Marble Top, with Glass Funnel, as good as new, (original price, $22.00)	8.00
One ARCHER NO. 2 SPITTOON STAND, OILED WALNUT, slightly shop-worn	7.00
One S. S. WHITE WALL CABINET (in good condition)	15.00
One S. S. WHITE EXTENSION BRACKET, NO. 2, good as new (Original price, $18.00)	10.00
One SNOW & LEWIS EXTENSION BRACKET, Bronze, with Drawer, shop-worn (original price, $12.60)	8.00
A Job lot of H. C. COY'S PATENT NOISELESS HAND LATHES with two Chucks, each	3.00
One SALMON'S AUTOMATIC PLUGGER, with 10 Salmon and 3 Varney Points, all equal to new,	10.00
One SHOW CASE, HEAVY PLATE GLASS, 17½ inches long, 12½ inches wide, 9½ inches high, equal to new	6.00
One S. S. White Wooden Chair, (Illustrated in S. S. W. Catalogue, 1865), covered with green plush, footstool, a low operating stool and spittoon, in fair condition,	30.00

Boxing on above goods Extra.

GIDEON SIBLEY,
13th and Filbert Streets, Philadelphia, Pa.

IMPROVED & ANCHOR FLASK



The above cut represents a Flask of our own make, it being greatly improved over the old style Anchor Flask in many respects, as follows:

It is larger in size, and much thicker, weighing nearly two-thirds more.

It has much longer guides, and is so constructed that it is impossible for the bolts to slip, thus making it the most perfect and convenient flask in the market.

Any Vulcanizer measuring 3⅞ inches in diameter, inside, will admit this flask easily.

PRICE, MALLEABLE IRON,	**$1.00,**	**postage, 25 cents.**
EXTRA BOLTS, PER SET,	**.25**	**" free.**
WRENCHES,	**.10**	**" "**

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IN THE PRICE OF

Britannia Impression Cups.

LONG HANDLES.

UPPER, Nos. 1, 2, 3, 4, 5, 6, 7, (No. 1 is the largest size.)

LOWER, Nos. 1, 2, 3, 4, 5, (No. 1 is the largest size.)

PARTIAL LOWER CUPS.

ENCLOSED CAVITY, Nos. 9, 10, 11, (No. 9 is the largest size.)

OPEN CAVITY, Nos. 6, 7, 8, (No. 6 is the largest size.)

UPPER AND LOWER CUPS.

PARTIAL UPPER, Flat Bottom, Nos. 8, 9, 10, 11, (No. 8 is the largest.)

FULL LOWER, Flat Bottom, Nos. 12, 13, 14, (No. 12 is the largest.)

PRICE 25 CENTS EACH.

GIDEON SIBLEY,

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—OF—

GOLD FOILS

KEPT CONSTANTLY IN STOCK.

	⅛oz.	½oz
"R. S. Williams" Soft & Cohesive, Cylinders, Style "A,"	$4.00	$15.00
"Hood & Reynolds" Soft & Cohesive Cylinders, Style "A,"	4.00	15.00
"J. B. Dunlevy's" Soft and Cohesive,	3.75	14.00
"Nickold's" Improved Soft,	3.75	14.50
"S. S. White's Quarter Century,"	4.00	15.00
" "Globe,"	4.00	15.00

Other Foils furnished at Manufacturers' prices when desired.

F. R. Faber, D.D.S. C. F. Faber, D.D.S.

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Mechanical Laboratory,

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Dental Mechanism Exclusively of the FIRST CLASS.

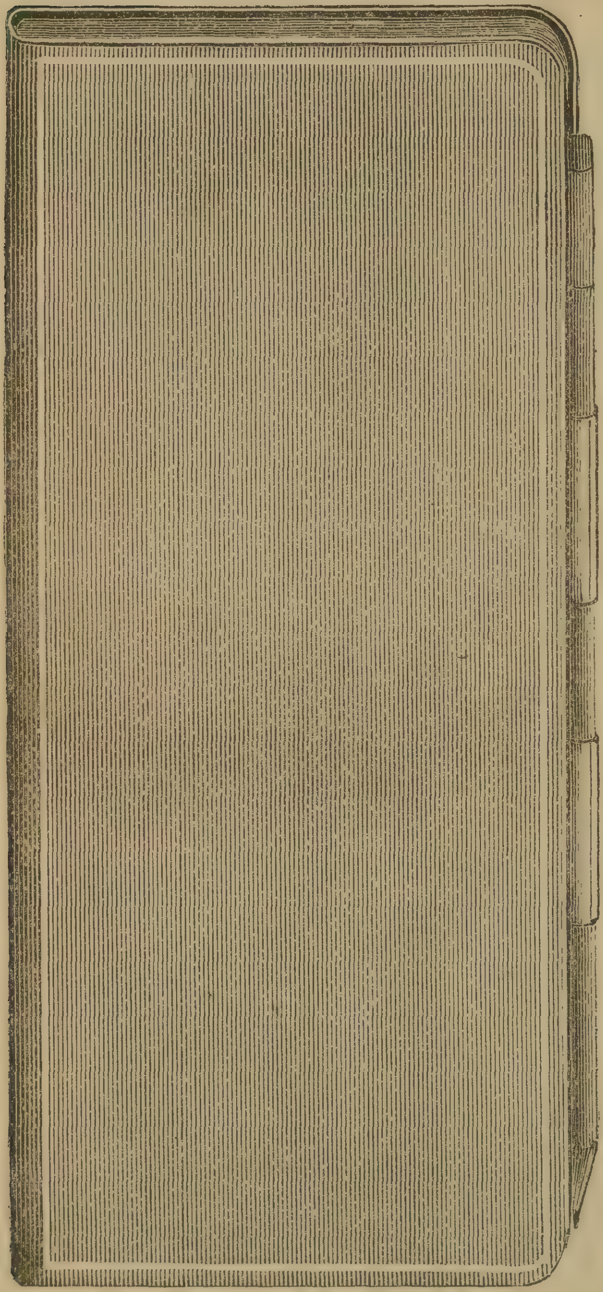
Instructions given in Continuous Gum Work.

Miscellaneous Price-List.

Articulators No. 1		$ 1.00
Ammonia Fused and Granulated (5lb Boxes)		1.50
Sibley's Gold and Platinum Alloy,	per ounce	3.00
Caulk's “White” “	“	3.00
Dr. Flagg's “Standard” “	“	6.00
King's “Occidental” Amalgam	“	3.00
Pierce's “	“	4.00
Arrington's “	“	3.00
Lawrence's “	“	3.00
Townsend's “	“	2.00
Samson Rubber	per pound	3.00
Extra Elastic Rubber,	“	3.00
Bow Spring	“	3.00
Whale Bone “	“	3.00
Doherty's Rubber, 1 and 2	“	2.50
“ “ 1 and 2, (Weighted)	“	4.00
“ Black “	“	2.50
English Pink Shade No 1	“	10.00
“ “ “ 1 X	“	7.00
Gutta Percha Base Plate	“	2.50
Acme Cement	per package	1.50
Weston's Insoluble Cement	“ “	2.00
Caulk's Diamond “	“ “	1.00
Pierce's Phosphate of Zinc	“ “	2.00
Agate Cement	“ “	2.00
Caulk's Hydraulic Pebbles	“ “	3.00
Houghton's “Os Artificial”	“ “	1.00
S. S. White's Dental Engine—14 points		50.00
Johnson Bro s “ “	“	40.00
Bonwill's “ “		44.00
Gilling Twine	½ ounce skeins	.10
Floss Silk, plain	per dozen	1.25
Rubber Dam, Medium	per yard	1.50
“ “ Thin	“	1.00
Shellac Varnish	per bottle	.25
Sandrach “	“	.25
Liquid Silex and brush	“	.25
Re-distilled Mercury	per ¼ pound	.50
Bibulous Paper (Japanese)	“ 100 sheets	.50
Absorbent Cotton	2 ounce pkgs	.20
Spunk	per ounce	.20
Yellow Impression Wax	½ lb Boxes	.38
“ Base plate “	“	.50
Modeling Composition	per pound	1.25
Lands Air Chambers	per dozen	.50
Anchor Flasks (Iron).		1.00
Whitney “ “		1.00
Hayes “ “		1.00
Star reversible “		1.25
Automatic Mallets, Snow & Lewis, N. P.		10.00
“ Plugger points	per dozen	3.50
Excavators (Blued handle)	“	2.00
Burs and Drills “ “	“	2.00
Pluggers, Chisels, Scalers, and Burnishers 3-16 in. blued handles, per dozen		4.00
Barbed Nerve Extractors	“	.75
Foil Shears 8 inch Japanned Handle		1.00
Foil Carrier and Plugger combined N. P.		1.25
Foil Tweezers	“	.60
College Plyers	“	1.00
Pocket Lancets, (1 blade), Shell Handle		.75
“ “ “ Rubber	“	.50

Lancets, (fixed blade), Ivory Handle	.75
“ “ Ebony “	.50
Chip Blowers, Rubber bulb.	1.00
Syringes, Hard Metal, N. P.	1.25
Mouth Mirrors (Plain) Ebony Handle	1.00
“ “ Magnifying “ “	1.50
Nerve Paste, per bottle	.35
Annealing Lamps, Nickle-plated tops	.40
Emery Strips, per gross	.50
Leather Lathe, Cords ¼ inch per foot	.03
Bill Heads No 1 per 100	.60
“ “ “ 2 “	.40
Robinson's Fibrous Textile Filling and Lining, per ½ ounce	2.50
Felt Cones.	20 and 40
“ Wheels	15 “ up
Brush “	10 “ up
Corundum Wheels	6 “ up
Rubber Dam Forceps, per pair	2.50
Extracting “ N. P. “	2.25
“ Forceps Hurd's Pattern, N. P. per pair	3.25
Union Felt Wicks	.06
Star Rubber Dam Punch, N. P.	1.50
Rubber Dam Weights “	.50
“ “ Clamps “	60 and up
Hard Rubber and Corundum Disks	.25
Corundum Disks, per dozen	2.75
“ Points, not mounted, per doz	.75
“ “ “ “	1.50
Corrugated Soft Rubber Disks, each	.10
“ “ “ Points per dozen	.75
Wood Polishing Points, ass'd per 100	1.25
Rubber Scrapers and Chisels, each	.25
“ Files, Steel Handles 4½ inch	.20
“ “ “ “ 5¼ “	.25
“ “ “ “ 6 “	.30
“ “ Double End 7½ “	.28
“ “ “ “ 8 “	.35
“ “ “ “ 9 “	.50
“ “ Fish belly 7½ “	.42
Double End Rubber Rifflers, each	.20
Seperating Files, Earnest, per dozen	1.00
Plug Finishing Files, Double End, per doz	2.40
“ “ “ “ “ “	2.00
Biscuspid Files, per dozen	2.00
Molar Files, Double curve, Feather edge	.30
“ “ “ “	.22
“ “ “ single “	.18
Stump and Pivot Files	.18
Wood Plugging Mallets	.25
Mercury Holders, Double top	.50
“ “ Single top	.25
Wedge Cutters, N. P.	2.25
Engine Cords	.10
Nerve Broach Holders	.25
Pallette, for mixing Cement (Porcelain)	.20
“ “ “ French plate	1.00
Bench Brushes, Bone Handle	.35
Wax Spatulas	.30
“ Dr. Beal's pattern	.40
Soldering Tweezers	.10

Pearson's Dental Appointment Book.



Exact Size of Book

Month of *1883.*

THURSDAY,	A M	P M	Operation
Mrs. Jones,	9		*G. Flg.*
Frank Swift,		2	*Treat.*
Miss Mason,	10		*Imp.*
Mrs. Brown,		3½	*Artic.*
Mr. John Smith,	11		*Fin G.*
Mr. Johnson's Child,		4	*Reg.*
Mrs. Burnes,			*Am. Flg*
FRIDAY	**A M**	**P M**	**Operation**
Mrs. Jones,	9		*G. Flg.*
P. E. Small,	10		*Imp.*
Miss Mason,	12		*Plate.*
Mrs. Roe,		2	*Clea'g*
Mr. Thos. Clark,		3½	*Bon. Cr.*
Mrs. Hayes,		4½	*Ext.*
Frank Swift,		5	*Treat*
SATURDAY,	**A M**	**P M**	**Operation**
Work in Laboratory,	9		
" " "	10		
Mrs. Brown,		12	*Plate.*
Miss Horton,		2½	*Exam.*
Mrs. Burnes,		3	*Fin A*
Mr. Johnson's Child,		4	*Reg.*
Gen. Thomas,		4½	*Plate.*

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Kansas City, Mo.

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FOR CUTTING DOWN AND POLISHING FILLINGS.

These strips are put up in gross packages, in six different grades of Emery and Crocus, on strong, thin cloth. – No. FF Emery, finest.—Nos. 0, 00, and 100 are medium.—No. ½ coarsest. Also, Crocus for finishing, and assorted, *i. e.*, some of all grades. Cut represents full size of packages – except in length – length of strips, 9¾ inches.

DIAMOND STRIPS,

FOR FINISHING FILLINGS.

These strips are made of a thin, strong paper prepared especially for the purpose, and assorted as to fineness of material covering the finishing surface. Put up only in packages ontaining one gross. Illustration shows full size of package. Length of strips 9 inches.

FRENCH STRIPS,

FOR POLISHING FILLINGS.

These strips are made of a very fine, thin and especially strong French paper, coated on one side with an unequalled polishing material. For the final finish of an approximal filling these strips have no rival. Put up in gross packages, as illustrated above. Length of strips, 8¼ inches. These three styles of strips have proven by far the most *desirable* and *economical* articles for the purpose yet discovered.

Price, Either Style, 50 cents Per Gross.

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MANUFACTURED BY

EUGENE DOHERTY,

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THE STRONGEST & MOST UNIFORM RUBBER MANUFACTURED.

It is the toughest and most durable Rubber made. Vulcanizes same as ordinary Rubber.

SAMSON RUBBER.

MANUFACTURER OF ALL KINDS OF

Dental Rubbers and Gutta Perchas.

PRICE LIST OF DENTAL RUBBERS AND GUTTA PERCHAS.

No. 1 Rubber, per lb.	$2 50
No. 2 Rubber, per lb.	2 50
Samson Rubber, per lb.	3 00
Black Rubber, per lb.	2 50
Flexible or Palat· Rubber, per lb.	2 75
Gutta Percha for Base Plates, per lb.	2 50
Vulcanite Gutta Percha, per. lb.	3 50
No. 1 Weighted or Amalgamated Rubber, per lb.	$4 00
No. 2 Weighted or Amalgamated Rubber, per lb.	4 00
Black Weighted or Amalgamated Rubber, per lb.	4 00
Weighted Gutta Percha, per lb.	4 00
Adamantine Filling or Stopping,	

NOTE.—The above Rubbers and Gutta Perchas will be furnished in pound or half pound packages to any dentist in the country on receipt of price, and stating that they cannot get them at the Dental Depots in or near their place of business. Circulars giving full instructions how to use all of my Rubbers and Gutta Perchas, will be found in each box or package with the article ordered.

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RECOMMENDED FOR ITS

PURITY,
PERMANENCY,
PLASTICITY.

MANUFACTURED BY

DRS. PEIRCE,
PIKE, AND
PHREANER.

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Price, $4.00 per oz. Put up in ounce and half-ounce packages.

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PHOSPHATE OF ZINC CEMENT.

Prepared by

DR. C. N. PEIRCE.

The properties of this Cement have been well tested, and not found wanting. It does not deteriorate with age. Directions accompany each package. It can be procured of dealers in dental supplies, and in quantity of the S. S. WHITE DENTAL MF'G CO., JOHNSON & LUND, and of the MANUFACTURER, 1415 Walnut Street, Phila.

PRICE, PER PACKAGE, $2.00. **LIBERAL DISCOUNT TO THE TRADE.**

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OF THE

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The object of the School is to impart a thorough knowledge of Dental Science and Art. In pursuance of this object, it will be the aim of the professors to qualify their students to perform that highest service of the dental practitioner—*the saving of the natural teeth*—in the most scientific and skillful manner. They will also give such practical teaching in Prosthetic Dentistry as will secure the best results of Dental Art and Mechanism. Each student is expected, during his course of study, to perform with his own hand, under the direction of a competent Demonstrator, all the usual operations of Dentistry.

All Departments of the University are open to students entering the Dental Department, without additional charge. The lectures in general Anatomy, Physiology Chemistry, and Surgery are attended in common with the medical class. The Dental Specialties are taught by a corps of four professors, who are practicing dentists of large experience.

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WATT'S IMPROVED METAL.

BETTER THAN ANY IN USE!

Six Ingots to the Pound. ***Per Ingot, $1.00.***

Printed Instructions with each Ingot.

This metal is far superior to the well-known Watt & Williams metal. It is the result of diligent research, aided by abundant leisure, and long experience in the science of metallurgy.

Watt's Metal is stronger and runs sharper than any in use, while it withstands chemical action within the mouth better than 18 carat gold.

It has no equal for lower plates, gives a much better fit than rubber, celluloid, or gold, and is a good conductor of heat and electricity. Weight is often advantageous; but if shrinkage is very great a base plate of the metal may be made, and the teeth attached to it with rubber or celluloid. Most beautiful upper or lower dentures may be thus made, and no other work has greater durability.

Molds may be made in almost any flask, but a glance at the cut of the Watt Flask will persuade any one to buy it who intends to use the work.

Ask your Dental Depot for it, or send to

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PRICE REDUCED TO $3.00 PER OZ.

5 oz. at one time, $2.75 per oz.; 10 oz at one time, $2.50. per oz.

This Amalgam has been before the profession in Ohio and Western Pennsylvania for some years, and all who have used or tested it, agree that it has merits over any other Amalgam in the market.

The process of manufacture differs from that of other Amalgams, and

BY A NEW INVENTION

Dr. King is enabled to obtain better results, both in regard to COLOR, SHRINKAGE and EXPANSION, than is obtained in any other alloy in the market.

Test for color consists of sixty grains of Sulphuret of Potassa, dissolved in one ounce of water. Amalgam plugs to be left in this solution twenty-four hours or more. The Occidental will remain bright after this test, and we know of no other Amalgam, at even double the price, but that will discolor. All who would use the best should buy it.

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1883

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GEO. WATT, M.D., D.D.S., Editor, Xenia, Ohio.

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STOPPINGS AND FILLINGS OF ALL KINDS.

RUBBER, CELLULOID PLATES, GUTTA PERCHA,
MODELING COMPOUND,
PLASTER OF PARIS, ETC.

Also, a large and varied Assortment of

THE THREE LEADING BRANDS OF TEETH,

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Sibley's.

The large and increasing sales of the last-named make of Teeth, is sufficient to guarantee their superiority over all others of similar price. By a large number of the Profession, they are considered equal to any in the market.

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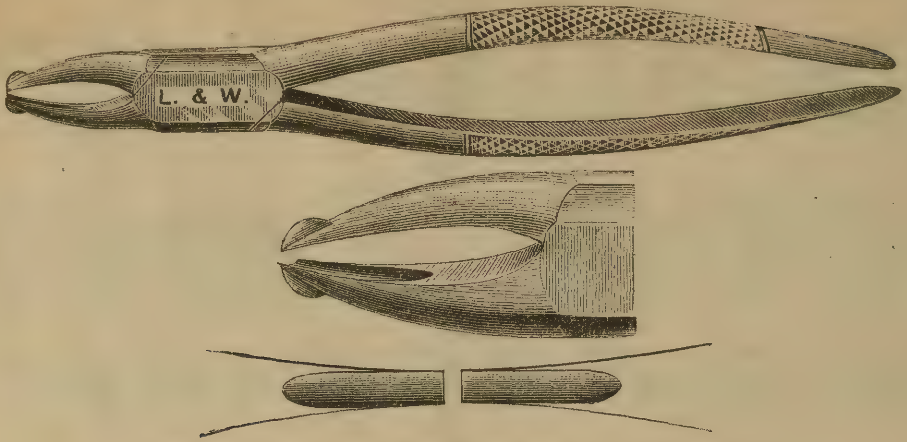

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We quote Dr. Brigham's explanation of manner in which his Forcep is used:—"It is placed on the crown, and opened wide enough to go outside of Root and Process, then pressed in place and Root extracted, breaking no process, except what is included within the beaks. Thus freeing the cavity from all fractured process, leaving the mouth to heal much sooner."

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LAWRENCE'S AMALGAM.

This Amalgam has received the endorsement of the profession at large for nearly forty years, which would seem to render any remarks as to its excellence superfluous. Price, $3.00 *per oz.*

Purchase only of reliable dealers, their agents, or of the inventor and only manufacturer,

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No. 476 Columbus Ave., Boston, Mass.

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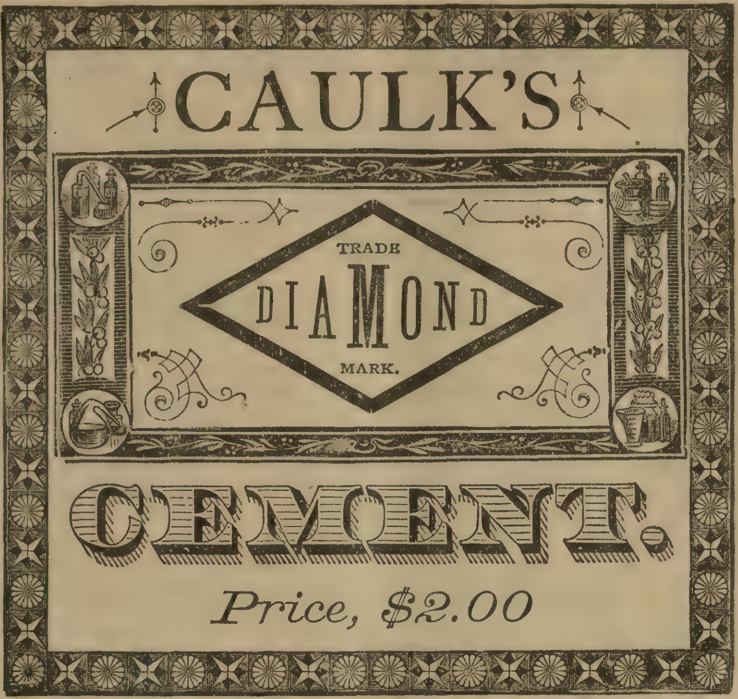
PRICE

Two Colors,

Grey & Yellow

$2.00

Per Package.



PRICE

One Color,

Grey, Yellow

Medium, Light,

$1.00

Per Package.

THIS COMPOUND NOW STANDS WITHOUT A RIVAL.

From Two to Four Years' Test by Leading Dentists Throughout the World, has Proved it to be all that has been claimed for it.

Fillings that have been Standing in the mouth OVER three years, in comparison with other plastic material in the market, show not only its SUPERIORITY, but it has proved to be *more insoluble* than many of the so-called insoluble cements. We have increased the quantity fully one-third, and all bottles are lettered with **"Caulk's Diamond Cement."**

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This Alloy is made expressly for front teeth, is of a peculiar grayish-white color, which will retain its brightness under all circumstances. Price same as Par-Excellence Alloy. Two ounces, one of each, for $5.00.

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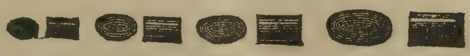

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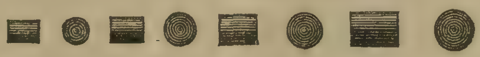

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DECEMBER 15th, 1883. VOL. I.—NO. 12.

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LABORATORY FIXTURES AND TOOLS.

A well arranged and orderly laboratory, with a complete assortment of tools and appliances, is a great convenience; and, I might say, an essential one for the proper construction of artificial teeth. If the main motives are good work and dispatch, it is indispensable. Good work is impossible if your implements are not adapted for the work; or, if not arranged in convenient places, dispatch is impossible, and more or less discouragement will be the result.

Dentistry, as an art, is comparatively of recent date, combining and made up as it is, of a little of nearly all the trades and sciences, readily accounts for the want of adaptability of many of our tools and implements.

For our plate work we use the jeweller's plyers and shears, the handles of which are too short and too far apart; many still use the old mouth blow-pipe and charcoal support for soldering teeth; the machinist's lathe used to be thought the roper one to attach our small wheels, the perator standing on one leg and using he other to run it, and with the elbows triving to hold the body still enough to rind the teeth nicely. Many others qually as unwieldy are still used, but a reat improvement has been made in the ast decade, so that a dentist with a small rtune to invest can be supplied with a ery nice assortment of pretty fair tools at he dental depots.

The general opinion among dentists appears to be that any kind of hole or corner in a house will do for a laboratory, and any kind of old tools will answer to stock it with. Some seem to think the more it looks like a blacksmith's shop the more complete it is. A few years ago the writer was invited by a noted and skillful dentist to inspect his laboratory. It was a good size room, dimly lighted. The walls were as black as smoke could make them. The dirt had recently been shoveled up in one corner. There was no lack of tools, for the high benches were covered with them—clumsy hammers, plyers and pincers; a monstrous anvil in the centre of the room, sitting on a huge block of wood; a forge and bellows in one corner, and a large clay furnace beside it, were the most prominent, as I looked around. The rest of the things could be summed up in one word—*chaos*.

A full list of instruments, tools and fixtures for a complete dental laboratory would require too much space for this journal, but a few of the most convenient and serviceable, I will describe. Those that are most used should be nearest to the main work bench; those seldom used farther off. A seperate bench for plaster and other rough work, with several racks for the small tools—all arranged so as to be in reaching distance, will save much time. The old maxim is well applied here: "A place for everything, and everything in its place."

The main work bench should be two feet and six inches high and five feet long.

and be placed in front of a window; the left end to contain the lathe head and driving wheel for grinding and polishing plates. A two-inch swivel bottom bench vise, bolted firmly to the middle of the bench, with parallel jaws, turns to right or left side, as is wanted. The right end has the filing stake of hard wood standing upright, and is movable, fitting into a square hole near the edge of the bench. The drawers are below it, the upper and narrowest one to hold the tin pans for gold and silver scraps; the under and largest to catch the rubber filings, bits of plaster, etc., instead of throwing them on the floor. The ends and back of the bench should be enclosed with a strip of wood four inches high, to keep things from being pushed off and also to hold the tool rack.

The tool rack should be strong and extend the whole length of the bench. The neatest and strongest I have seen was made of a strip of number 22 sheet brass, five-eighths of an inch wide, punched an inch apart with holes large enough for a one-inch round headed screw to pass through, near to the top edge, by passing the screws through the holes in the brass strip into and through a half-inch long ferrule, and then screwed to the walnut strip. The ferrules are made by cutting with a jig-saw, half-inch pieces off a brass tube just large enough in diameter for the screws to go through. No rack I ever used ever equalled this, in neatness, strength or durability, and it never wears out.

A drip box to hold the water and sponge for use when grinding teeth, polishing, etc., is made of sheet brass or copper, six inches long by five wide and two inches deep, and the top edge of one side and end is curled over to form a resting place for the hand; a false bottom of brass wire gauze is loosely placed half way from the bottom to keep the sponge out of the mud which collects at the bottom of the box. The mud, which frequently contains gold and silver grindings, can thus be saved. At the back of the drip box, on the inside, a long loop of sheet brass is soldered at each end, to hold the dust catch—a piece of sheet brass four inches wide and long enough to curl partly over, and near to the polishing brushes when in use; when not in use it can be lifted out and put one side.

The brush and wheel box is another fixture made of tin, six or seven inches square, with a piece of inch-thick board nailed to the back part, some two inches higher than the box, in which headless nails are driven part way, for the purpose of holding the polishing brushes, corundum wheels, buffs, etc. The nails or pieces of wire are driven into the wooden back at different angles, so as to accommodate some two dozen chucks.

Felt wheels can be made more durable if the sides are coated with melted shellac before mounting them on the mandril; a heated knife blade held against the shellac will melt it part way into the felt; the buff treated in this way will remain the same thickness until entirely worn out.

Brush wheels can also be made to last longer by thoroughly oiling the wooden hub before mounting them on the mandril. Several coats of oil are necessary, allowing several days for the oil to soak through.

Blow-pipes of the latest make are a decided improvement on the old air pump and separate gas flame. The new ones, with double tubes, one for air, the other for gas, suspended and revolving on a stand, are about as near perfect as any one need want. A stop is provided to regulate the flow of gas, producing a large or small flame, as is required. A Smith bellows supplies the force and air, and the heat is sufficient to melt several pennyweights of scrap gold, or for making solder. I have melted as much as fifteen pennyweights of gold on a flat carbon crucible attached to a tilting ingot, with this blow-pipe. In a few minutes a square piece is turned out, ready for the rolling mill.

The carbon crucibles are composed of clay, asbestos, plumbago and pumice pressed into a tin mould two inches square, the sides a quarter of an inch high; while still soft a flat depression is made in the centre, which confines the melt to one spot. The tilting ingot is made by the Buffalo Manufacturing Company, and sold at dental depots.

A clay support, to hold work to be soldered, is readily made of a sheet iron ring five inches in diameter, a handle riveted to one side. Punch a few holes near the top edge for wires to cross in different directions. The wires are covered with a batter of plaster, clay and asbestos, equal parts, about a half inch thick and well dried before using.

I have found the ordinary coal-oil lamp, with the notched or fluted chimney, an excellent heating lamp to dry invested teeth or small pieces of work for soldering.

A wire director to pull the melted solder into difficult places, had better be pointed with platinum wire, as it is more durable and leaves nothing objectionable to mix with the solder. A·piece of number fifteen, about two and a half inches long driven into a brass tube, and that tube into a wooden handle, is about the best.

Instead of the old slate, generally used to rub up borax, a small cold-cream glass jar, with a glass stopper to grind up the powdered borax is neater, takes less room, and, what is better than all, keeps the slate out of the borax.

W. R. HALL.

As a medium to advertisers I have found the PRACTITIONER equal to, if not the *best* of, any dental journal in the east.

J. S. CHARLES, D.D.S.,
Philadelphia, Pa.

CELLULOID.

BY FRANK R. FABER, D.D.S., MECHANIC TO THE PROFESSION, PHILADELPHIA.

In answer to the oft-repeated questions regarding this material, "How do you like it?" "How does it compare to vulcanite?" "Is it durable?" "Does it hold its color?" "Can it be repaired?" I have prepared this paper, setting forth my views of it, after some years of experience, for the benefit of all whom it may concern: The dentist who has never used it, the one who has, the strict partisan for it, who asserts and believes that there is nothing like it, the man who stands up for vulcanite and condemns celluloid. I have noticed many articles on this subject in our professional magazines, some setting forth the virtues of this base with an enthusiasm that almost amounted to absurdity when read by anyone who is at home in the laboratory, and who knows a little more of this branch of dentistry than is required in the mere construction of a set of teeth. Others berating it with equal zeal because they have had a few failures, not knowing how to treat it or manipulate it properly, relying upon the instructions given in the pamphlet which accompanied the apparatus for working it when brought, forgetting that the only way to learn anything in dentistry is to toil without ceasing until the desired end is attained. I do not write this paper to extol the merits of celluloid, neither will I cover up its deficiencies, for it certainly possesses both, but to present to the profession my idea of the places where it should be used and its place in dentistry, for it certainly possesses virtues which entitle it to one.

How is celluloid regarded? Just the same as the different methods of mounting an artificial crown. One man swears by one way, another swears at the same way. How does it compare to vulcanite?

If either base was to be used exclusively, vulcanite would have the preference; the years it has been among us, the popularity it has attained, and the familiarity the profession has with it to-day makes it too valuable to be excluded. Is it durable? Yes, when it is indicated; when the hygenic condition of a mouth calls for it; when the occluding teeth are favorable; when the acids of the mouth are weak. Does it hold its color? Being more porous than vulcanite it requires more frequent cleansing, a weaker state of the acids of the mouth, and an absence of tobacco in any form. Under these conditions the color will remain good for an indefinite time. I have had plate under my observation for four years where these conditions were observed, and the color is still good, slightly darker, but not enough to be objectionable, and on one or two of them, only noticeable when compared to a fresh piece. Can celluloid be repaired? Ah, here is the great drawback. There is only one way to repair it, and that can be done but once or twice, at the outside calculation. No way has ever been discovered to make a new piece of celluloid join to a plate that has been worn in a manner that would serve all purposes, and that could be relied upon to the extent of repairing in vulcanite. I have repaired many celluloid plates, some well, others poorly, but the most of them indifferently, not through any fault of mine, however. The proper spirit was manifest, but the execution failed. The old material absorbs from the fluids of the mouth, and when re-heated to repair seems to become softer than the new or repair piece, and instead of the new material pressing into the dovetails prepared to receive it, and the excess flowing into the waste gates, it presses down and presses the old material out flat, and then distributes itself over the surface to repair. Sometimes this will remain repaired for a considerable time, but in a majority of cases it is short-lived. Some of the most promising attempts at repairing celluloid have only lasted a few weeks. It is fair to infer that the difficulty of joining a new and an old piece of the material is due to the secretions coming to the surface when the heat is applied, burning into carbon when it is continued, and forming a barrier between the two, as oil between the impression and model.

Where should celluloid be used?

When is it indicated?

For temporary cases, to be inserted soon after extraction, it is par excellence. If the lip is too long to set the artificial teeth upon the gum, a nice band of celluloid can be pressed above them, carved and festooned to imitate nature, obviating the necessity of using the piano keys which are made to imitate teeth, and sold under the name of vulcanite blocks. Its lack of durability when compared to vulcanite recommends it for this purpose. That it is injurious to the tissues of the mouth to wear an ill-fitting plate is an established fact. Temporary plates soon become ill-fitting, and if the patient will not heed the advice of the dentist, the objection to the material when compared to vulcanite will become manifest, and a permanent plate will be the result, benefiting the health of the patient, ditto the dentist's bank account. Nothing approaches nature nearer, or is more desirable, with one objection, than a celluloid attachment properly constructed on a metal plate, not even continuous gum work, the objection being, the occasional replacing of the attachment should it become discolored, or should any of the teeth be broken, and considering the ease with which it can be done, in place of an objection I am almost inclined to consider it an advantage. All the advantages of a metal plate are secured, with all the qualities of one of vegetable base. The most natural design of teeth upon the market are those made from celluloid. Its lightness gives it preference over continuous gum work.

Celluloid is best adapted to the construction of full dentures when used alone, or if used in partial cases, only those which have the teeth to be replaced all together. Where a break occurs in the arch, for instance, one or two centrals, canines, or bicuspids remaining in, as the case may be, celluloid is not indicated. It is not a desirable material to construct small partial sets upon, where one or two teeth which stand alone are to be replaced. While celluloid in bulk is strong, when stretched out it becomes weak. For partial lower plates it is good for nothing. My previous experience with partial lowers and vegetable bases has convinced me that of all the materials we use for this purpose, they are the poorest.

[TO BE CONTINUED.]

CARIES OF THE TEETH.

BY THEODORE F. CHUPEIN, D.D.S.

[Read before the Odontographic Society of Pennsylvania, Dec. 5th, 1883.]

We find caries existing principally in the enamel and in the dentine of the teeth. Sometimes it is found in the cementum, but this most generally occurs at the necks of the teeth when the gums have receded from these parts, thereby exposing this tissue to morbid influences.

The subject of dental caries and its causes is still invested in considerable darkness, notwithstanding it has been considerably written upon and discussed. Some contending that the disease is no disease at all, but only a *result*, viz.: Chemical decomposition, and amenable solely to chemical laws. Others assume it to be the result of morbid action in the vital organism.

The presence of caries is first noticed in or through the enamel; this tissue assuming a black, bluish, or dark spot or streak at the point affected when the tooth is attacked on its crown surface; but when the disease appears on the proximate surfaces the indications are generally of an opaque or whitish color. This latter condition seems to give this tissue considerable porosity, as it readily breaks down under slight pressure with dental chisels, and Dr. W. H. Trueman has stated that if a tooth thus affected be subjected to the action of analine fluid the affected part will readily absorb the coloring mixture, while the unaffected part will remain uncolored.

Prof. Tomes says "the first chemical change consists in the removal of the phosphate of lime from the gelatine, leaving the dentine of a consistency capable of being readily cut with a sharp knife." When caries is present discomfort or pain is experienced,—this is, or is not, always the case—some persons rarely suffering from toothache, although the tooth may be entirely destroyed, while others suffer more or less discomfort from the very incipiency of decay.

Toothache, however, from simple decay, has very different characteristics from toothache caused by such extensive decay as results in the exposure and inflammation of the pulp. In the latter there is the invariable throbbing and the sense of pain upon taking hot or cold fluids in the mouth. In the former the pain seems to be confined to the attacks of the disease at the peripheral parts of the dentine, for we observe that this pain seems to pass away after a certain part of the tooth has been destroyed.

The predisposing causes of decay have been attributed to various circumstances, viz., irregularity of position, crowded condition, close contact, an acid condition of the mucus and salivary secretions, extremes of hot and cold food, uncleanliness, the lodgment of particles of food between the teeth and in the fissures of the enamel, the violation of nature in partaking of food producing dyspepsia, the acid eructations of this disease reacting upon the teeth, imperfect development of the teeth, fibrile conditions of the body, etc., etc.

The exciting causes are not so well understood. Many writers on this subject ascribe it to inflammation of the dentition; but if we must accept the usual accompaniments of inflammation--heat, redness, and pain—as the invariable results in other parts, the assumption would fail of support. Still we know that an inflamed part, when pressed upon, gives pain. We know, too, that when the decayed dentine is pressed upon by the excavator in shaping a cavity, pain is likewise experienced. Redness is not manifested, it is true, because the dentine is not so vascular as to admit an excessive flow of blood within its substance, as is the case with the soft tissues, nor can we judge if heat is present as in the soft tissues.

Prof. Tomes, in writing upon the subject, says: "In speaking of the predisposing and exciting causes of caries, allusion has yet to be made to those agents which may be regarded as capable of acting in the double capacity of depriving the dentine of its normal powers of resistance, and of producing its immediate decomposition.

"In considering the subject from this point of view, we must be prepared to admit that the dentine is possessed of vitality, and that that vitality must have been lost before the tissues undergo decomposition. If we take for example the effect produced on the skin by the application of caustic potash, the immediate result is the destruction of vitality in the part with which it comes in contact; and its secondary effect will be the disorganization of the part destroyed. But had the power exerted by the potash been incapable of destroying the skin of vitality, the succeeding effect—that of producing decomposition—would have been successfully resisted.

"In the case of a tooth, the application of potash would not produce conclusive results; but the use of mineral acids would be followed by consequences similar to those mentioned with respect to the skin. The vitality of the part would be destroyed, and decomposition would succeed the loss of life."

It may be said that agents of this active character are not applied to the teeth, but such as have sufficient power to destroy are applied, and it is by taking an extreme case that we are best able to examine the mode of action and the ensuing results.

Litmus paper applied within the cavity of a carious tooth almost invariably gives a strongly marked acid reaction, and thus furnishes evidence of the existence of an agent capable, if unresisted by the vitality of the dentine, of decomposing that tissue of its earthy constituents, leaving the gelatine to undergo gradual decomposition favored by heat and moisture of the mouth.

In examining the circumstances under which the decomposition of the dentine takes place, and under which it is resisted, apart from the influence of vitality, any one must be struck by the power that is exerted by the mere form of the surface involved. Supposing the disease to be situated in a deep fissure, or upon the side of a tooth against which another tooth is placed, the decomposition will go on with more or less rapidity, the rate being varied in accordance with the condition of the oral fluids. But if the cavity be superficial, and so placed that it is subject to friction during mastication, the process will be relatively slow; and if the low wall of such cavity be removed, the part will become polished by the act of mastication and by the motion of the tongue, and decomposition will be completely arrested quite independently of any power of resistance exercised by vital action.

Evidences of these kinds were quite forcibly brought to our attention during our late civil war. Being for a long time engaged at garrison duty we were called upon to practice dentistry to a considerable extent, for the officers and men in the immediate neighborhood where we were stationed. From the effects of the blockade every article, whether of necessity or luxury, rose to fabulous prices in the Confederate States, and dental materials were no exception. The last ounce of gold foil which I purchased while I was practicing in the army I paid $1500 for, and this was by no means its maximum price. All my tin foil was used up, and so with my amalgam; and silver quarters with which to make amalgams, were as scarce as green peas in January. Under these circumstances, wherever I met superficial caries on the masticating surfaces of the molars and bicuspids, I chiseled them out smooth, and this was the only treatment. This was readily accomplished; for, being in the artillery service, facility was afforded to shape, alter or make our chisels at the travelling forge connected with this arm of the service.

Again, let a tooth be placed under circumstances the opposite from the preceding. For example, take a bicuspid of the upper jaw, the distal surface of which is decayed, and remove the softened dentine; then let dry cotton wool be forced between the defective tooth and its neighbor, and renewed only once in three or four days; at the end of a fortnight, or three weeks, it will be found that the surface of the cavity, which was left hard and dense after the first operation, has become soft, and that the softening extends to a considerable depth. Had the cotton, prior to its introduction between the teeth, been dipped into a solution of any resinous gum, such as mastic, the surface of the cavity would have remained unaltered, owing to the exclusion of moisture. But where wool only is used, the secretions of the mouth are not only not excluded, but are held in constant apposition with the exposed dentine by the saturated wool.

Experiments of this character lead to the conclusion that within the mouth agents are present which, under favoring circumstances, are capable of decomposing the dental tissues, and the source of these agents becomes the next question which naturally suggests itself.

The secretion from the mucous membrane is ordinarily slightly acid, while the salivary fluid, when normal, is alkaline. The result of the admixture of these, if equally proportioned, would be a neutral fluid. In certain conditions of health even the saliva may be acid, and the mucus would then retain its original character after the mixture of the two fluids. Again, the degree of acidity of the mucus may be increased beyond the normal amount, and its tenacity may enable it to remain in certain situations unmixed, and consequently uninfluenced by the alkaline character of the salivary fluid. The quantity of mucus may be excessive, either from a local or a general cause. We not uncommonly find in mouths tenanted by numerous carious teeth, the gums thickened and vascular, and covered with a coating of thick adhesive mucus, capable of being drawn from the gum in long, ropy strings.

When this condition of the salivary fluids is observed, we notice a rapid destruction of the teeth, which leads us to the conclusion that the cause of decay exists in the condition of the oral fluids —and these being found acid, we argue that acids, whether from these or other causes, tend to the destruction of the teeth.

Whenever the fluids of the mouth are sluggish, inactive or stagnant, decay seems to be more active in the teeth. Thus in teeth with broad, flat crowns, which approximate by a large surface of contact whereby the fluids of the mouth, or minute particles of animal food, are held in constant apposition with their proximate aspect, we find decay almost invariably present, but when such teeth are well separated, affording only a small point of contact, and permitting the free passage of the fluids of the mouth, as well as preventing the contact of particles of food from lodging and putrefying on these surfaces, we do not find decay to start again in these localities when once removed.

We once filed a semi-lunar notch on the mesial surface of a lower molar, where the second bicuspid was wanting, and, on examining this surface some nine years after the operation, we found that the superficial decay which we had thus treated had been entirely arrested, although the file marks had not been polished out of the dentine. We are therefore of opinion that the predisposing causes of decay are: close contact, irregular arrangement, structural development, febrile condition of the system, a scrofula diathesis, mercurial salivation, indigestion or dyspepsia, low, damp and miasmatic climates, etc.

As for the exciting cause or causes, we incline to the acid or chemical theory. It is true that this has been refuted by the statement that if there existed a superabundance of acid in the mouth which sought a neutralization with some alkali, there was an abundance of tartar generally to be found on the teeth, by which the excess of acid might be satiated; but we cannot consider this a refutation, for we know that the salivary calculus holds a very large percentage of animal matter as one of its constituents, and we know that acids do not combine readily with animal matter, but rather with alkali alone. All acids, too, have various affinities. Thus, sulphuric acid shows little preference for lead, but a great affinity for iron; nitric acid of full strength does not act on iron with as much intensity as if largely diluted with water. The same acid readily dissolves silver, but will not affect gold, and so may the list be varied *ad infinitum*. We know that nitric acid has a strong affinity for lime, and that lime forms a large constituent of the enamel. We know that white decay is most rapid in its action, and when white decay is observed the reaction is nitric acid. Professor Watt, writing on this subject, says: "Now, for the present, assume that white decay is immediately caused by nitric acid, and that this acid is formed by the oxidation of ammonia. As ammonia is composed of nitrogen and hydrogen, its oxidation results in nitric acid and water. Liebig and other authorities state that it is always thus oxidized in the presence of free oxygen. And if it was in Liebig's day, it is so now. Remember, too, that ammonia always results from the putrefaction of nitrogenous organic compounds."

Now suppose a particle of food remaining between the teeth putrefies—as it will; nitric acid is the result of this putrefaction. This atom of nitric acid acts on the enamel. This action prepares the way for the lodgment of another particle of food larger than the first particle, to be in time converted into nitric acid, until the enamel is pierced, when the action is continued on the dentine—more rapidly on the line of this tissue than on the gelatine. Once the dentine is reached the action is more violent, for as the lime is dissolved away, the organic matter is left. The putrefaction of this gives off ammonia, which is oxidized into nitric acid, to dissolve more lime and to expose more organic material, which putrefying again gives more ammonia, to be again oxidized into more nitric acid, to dissolve more lime salts, and so to continne until the pulp is reached. This, gentlemen, seems to me to be the most plausible theory of dental decay, the parasite theory to the contrary notwithstanding.

GUTTA-PERCHA STOPPING.

CHAS. E. FRANCIS, D.D.S., NEW YORK.

[Note —Frequent inquiries concerning the practical value of this material and the method of manipulating it, is the writer's excuse for printing the following communication.]

Among the various preparations for filling carious teeth, gutta-percha stopping holds an exceedingly important place.

Cases are commonly presented where defective teeth can be better preserved if filled with this material, than with any other substance. Owing to its nice adaptability to the dentinal walls, together with its slightly expansive nature, it can be made to seal cavities in which it is packed with a remarkable degree of thoroughness.

For bucco-cervical cavities of second and third molars, it will stand for years, and prove exceedingly effective in preventing renewed decay.

It is frequently and advantageously used for packing against cervical walls of large buccal or approximal cavities, prior to introducing fillings of oxy-phosphate of zinc or amalgam; also for repairing large gold fillings with cervical borders slightly undermined.

As a stopping for deciduous teeth, it can be quickly introduced, and in most cases answers admirably; also for impoverished or poorly calcified teeth when attacked by caries, and is peculiarly well adapted in cases of white decay, or where the tooth structure is undergoing rapid decalcification.

As a temporary stopping for early decay in permanent teeth, nothing can surpass, or perhaps equal it, for safety. It holds good until the dentine becomes more dense, and the patient older and better able to tolerate the introduction of compact gold fillings.

In cases where the dental pulp is nearly or quite exposed, protection should be afforded by a covering of oxy-phosphate of zinc to prevent pulpitis, which might be occasioned by the expansion and consequent pressure of gutta-percha stoppings. Similar care should also be observed where the enamel walls are so exceedingly frail as to become easily fractured.

Although these stoppings are liable to wear away when much exposed to attrition, the surrounding cavity walls usually remain well preserved. They are, moreover, easily repaired or renewed, and with no loss to the tooth structure.

For large stoppings, much exposed to wear, caps of gold plate can be fitted to cover them accurately, on the cavity surface of which may be soldered small loops or T shaped anchors. Such a cap, warmed over a spirit lamp, can be imbeded in or united with the fillings, leaving a firm gold surface on which to masticate.

With a degree of tact and experience, gutta-percha stopping can be manipulated readily and with comparatively little trouble. Cavities should be prepared as nicely as possible, and kept dry while filling is introduced.

Small pellets of the stopping heated to a plastic condition, can be carried to the cavity on the point of a small curved and flattened instrument. Gentle pressure against the walls packs it securely. The excess can be trimmed away with flat heated instruments, and the surface rubbed with burnishers. A bit of cotton or spunk moistened with chloroform, held with tweezers and passed over the filling, will also aid in smoothing it.

Great care is requisite to avoid overheating the material. If warmed over a spirit lamp it must be held considerably above the flame. It is safer to place bits of the stopping on a piece of heated porcelain, or a small covered vessel of boiling water, preparatory to use.

Gutta-percha stoppings, if well impacted in properly prepared cavities, seldom prove treacherous, but as a rule are exceedingly safe and reliable.—*Independent Practitioner.*

The Dental Practitioner

Chas. E. Pike, Editor, 1415 Walnut St.

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WE HAVE COME TO STAY.

The present number completes the first volume of The Dental Practitioner. With it all subscriptions which have not been renewed will terminate. We extend a cordial invitation to our old subscribers to continue with us another year, promising not to relax our efforts to make the journal readable and instructive.

To those not upon our lists we say, *subscribe now*!

We would like to see every dentist in the country subscribe for each of our *home* journals at least. Many of our most progressive men are doing this, and it is one reason why they are able to keep abreast of the times and be pointed out as *progressive* dentists.

While we recognize that ours is not the most powerful and influential dental journal extant, still The Dental Practitioner will fill its niche to the best of its ability, and whatever influence it does exert, will be for *good* and *advancement*.

In our salutatory occurs this statement: "We propose to add to its pages from time to time until it is as large as the largest and as good as the best." As a step towards the accomplishment of this purpose, eight pages will be added to the forthcoming numbers, and we shall spare no pains to make them *better* than the present.

So we hope to continue, step by step, until The Dental Practitioner shall take its place in the front ranks of dental literature.

It now has a monthly circulation of 3000 copies, which we hope to increase to 5000 before the end of 1884.

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It costs but *50 cents* a year!

We respectfully call your attention to the subscription blank which accompanies this issue.

N. B.—*Subscriptions must commence with January or July.*

ANOTHER USE FOR THE "HOW" SCREW.

A few months since we purchased a set of appliances for mounting the "How" crown, and have used them with much satisfaction. We believe this process, in many cases, to be the best yet devised for attaching a porcelain crown to a natural root.

It is not our present purpose, however, to extol Dr. How's method of pivoting, but to call attention to the usefulness of some of his appliances in another direction.

In restoring badly broken down and pulpless teeth to usefulness, it is frequently necessary, in order to secure proper anchorage for the filling material, to insert wires or screws in the root canals. Of the two methods, the screw is undoubtedly the best as affording the firmest and most certain support.

The screws we have heretofore used for this purpose were of the regulation pattern, *i. e.*, with head and slot, and were inserted by means of a small screw-driver, often with much difficulty and annoyance, which the shape and size of Dr. How's instruments almost entirely overcome. The shortness of the sockets for holding the drill, tap and screw are so short that they may often be used entirely inside the mouth, thus enabling the operator to insert the screw on the axis line of any particular root, while it would be impossible to do so with longer handled instruments. The screws are of such size and strength that one will usually afford ample support.

Those who possess a set of these instruments will find a broad field for their usefulness in the direction indicated, and if any one who does not care to procure the whole set will get Nos. 4, 5, 6, 7 and 8, which are a twist drill, screw tap, drill chuck, for drill or tap and screw post chuck, together with a few screw posts, he will be amply repaid for his outlay in the first two or three operations.

FIRST AID TO THE INJURED.

An abstract of lectures delivered by Dr. J. Wm. White, chairman of the sub-committee on medical out-door relief; of the committee on medical charities of the Philadelphia Society for Organizing Charity; Surgeon to the Philadelphia Hospital, Demonstrator of Surgery and Lecturer on Operative Surgery in the University, etc. Published by the Philadelphia Society for Organizing Charity, for general use.

A pamphlet of twenty-five pages, containing an abstract of lectures delivered to the police force of Philadelphia by the request of the Mayor, and the Society for Organizing Charity, in which Dr. White has conveyed, in a concise manner, and in familiar language, such instructions as will enable any intelligent person "to give useful and well-directed aid in cases of accident or emergency."

We regard this little work as being worthy a place in every factory, workshop and household in the land, as no one but a well-educated physician could peruse it without gaining such information as might be valuable to himself or others at almost any moment.

Charles' Patent Process.—Attention is called to the advertisement of Dr. Charles setting forth the advantages of his new mode for packing rubber. We have received reliable assurances that his process is all that he claims for it, and that he is fully worthy of confidence.

PAUL BERT'S PROCEDURE FOR PRODUCING GENERAL ANÆSTHESIA THROUGH INHALATION OF NITROUS OXIDE WITH OXYGEN, UNDER HIGH PRESSURE.

BY DR. W. H. GOTTSTEIN, EDITOR CENTRALBLATT FUR ZAHNHEILKUNDE.

[Translated by Miss Marie Dalmar.]

It is a well known fact that nitrous oxide gas, when inhaled, produces a complete, and, for the most painful operations, absolute, sufficient anæsthesia. But it is well known too, that this anæsthesia cannot be continued for such a length of time as is in the majority of cases required for surgical operations; the very moment, where deep anæsthesia sets in, the symptoms of asphyxia appear, and death may occur almost instantaneously when the inhalation is not suspended immediately.

In order to avoid this serious disadvantage, Paul Bert has tried a number of experiments with nitrous oxide mixed with oxygen and other gases. By using these mixtures he succeeded easily enough in avoiding the asphyxia, but the anæsthesia was incomplete in these cases, and gave rise to symptoms of excitement, which made operations impossible. These combinations were therefore abandoned, and it was believed that pure nitrous oxide gas would only be useful for short operations, when Paul Bert was led to the following idea: To get complete anæsthesia without asphyxia through inhalation of nitrous oxide with oxygen under a higher than the ordinary atmospheric pressure.

The most successful experiments, which were made on higher animals, and later observations on men, showed the correctness of Paul Bert's theory. The animals, which were submitted to the inhalation of a mixture of 5-6 nitrous oxide and 1-6 oxygen, under an over-pressure of 1-5 atmosphere, sank very quickly into a deep anæsthesia, which would be continued for a considerable length of time without producing any symptoms of asphyxia. The blood retained its normal color, the heart-beats were of usual strength and rhythm, all involuntary functions remained intact, but the sensibility and muscular mobility were entirely lost. The animals regained, at the third or fourth inspiration in free air, total restoration of sensibility and intellectual function, however long they might have been under the influence of the anæsthetic. This exceedingly quick returning to the normal state, strongly contrasting with that following the use of chloroform, is due to the fact that the nitrous oxide gas does not combine chemically with the organism, (chloroform does) but is simply solved in the blood. The gas, which is absorbed at the moment, when the inhalation is suspended is given off quickly by the lungs, according to the analysis of blood gases by Paul Bert.

After these good results in experiments on animals, the first clinical operations on men were looked forward to with great interest. They came soon, and gave the happiest results.

On February 13, 1879, the well known Paris surgeon, Leon Labbi, operated upon a young girl suffering from incarnatio unguis. The patient, a very timid and nervous person. Mr. Labbi, his assistants and Paul Bert went into the large pneumatic chamber of the clinic of Dr. Dupley, and in a few minutes the atmospheric pressure was raised 0^m 17 mercury (total pressure, 0^m 92). Patient lay down on a mattrass, and a mask like that which is used for inhalation of pure nitrous oxide gas was placed over her mouth and nose. Here the bag, communicating with the mask, contained, as may be understood, 85 parts nitrous oxide gas and 15 parts oxygen. "I took," writes Paul Bert, "the arm of the patient, whose pulse was pretty fast, when suddenly, ten or fifteen seconds after the first inspiration of the anæsthetic, without the slightest changes in pulse, respiration, color and expression of the face, and without the slightest symptoms of spasm or any agitation, the arm became totally relax. The anæsthesia and muscular relaxation was complete. The operation was begun at once, and during it and the dressing of the wound the patient slept quietly, without making the slightest movement, a normal pulse was stated, four minutes after finishing the dressing slight contractions were noticed first in one arm, then in the leg. After removal of the inhalation mask, these contractions disappeared at once; patient slept half a minute longer and got awake, when somebody gave her a slight tap on the shoulder; she looked at us quite astonished, put herself into an upright position, and commenced suddenly to complain of pain in the foot. She was asked how she felt at present, and said she felt very well, and would like to get something to eat, since she had not taken anything in the morning, being so nervous about the operation. She declared that she had not felt anything during the operation; she felt very agreeable at the first inhalation; it seemed to her as if she rose towards heaven, and saw all around blue with stars. She got up by herself, walked without help to the carriage which should take her back to the hospital, and complained so much of hunger that the carriage had to be stopped to get her some food. Disagreeable phenomena were not at all noticed."

The first observation was highly instructive, but on account of the very short time of the anæsthesia and the insignificance of the operation, it could not be considered as definite proof of the superiority of this method, and it was not before the prominent surgeon, Prof. Pean, had used it in some capital operations, that the anæsthesia of nitrous oxide and oxygen under high pressure was introduced into clinical practice.

In order to illustrate the effect of this method still better, let it be allowed to describe a case where an important operation was made by Dr. Pean under a long narcosis:

Patient was a woman of 40 years of age, suffering from *carcinoma mammæ.* The operation was performed by Pean and his assistants, in a pneumatic chamber under an over-pressure of 17 to 19 centim mercury. In a large rubber bag and several smaller ones were inclosed 200 litres of a mixture of 85.2 parts of nitrous oxide and 14.8 parts of oxygen. The compression of the air began at 12.58, noon, the inhalation at 1.09 p. m., the pressure being equal at that time to about 18 centim. Patient showed no symptoms of excitement, lay perfectly quiet and was in a state of complete muscular relaxation at 1.10 min. 15 sec., when Dr. Pean began the operation. At 1.12 min. the mamma was extirpated under complete anæsthesia. The application of the hæmorstatics took two minutes. At 1.14 the gas-bags had to be changed, the patient took, consequently, some inspirations of free air, and at this moment the legs were slightly moved. At 1.15 patient awakens somewhat, tries to touch the wound with the hand, speaks a few words, and seems to feel some pain. The inhalation is now continued. Perfect quietness during the joining of the margins of the wound. At 1-20 the gas-bag is removed, and the dressing of the wound is done under high pressure. From the 200 litres of gas only 50 were remaining, so that patient had inhaled during the 14 minutes of the operation, 150 litres. At 1.22 min. 55 sec., when all was over, patient got awake completely. At 1.25 she got down from the operation table without help, and declared that she had felt nothing from the operation. Just before the operation the pulse was 60, at the beginning of inhalation it was raised to 104, during complete anæsthesia it was again 60; at the first awakening it rose to 92, and lowered then to 68, when the anæsthesia began to become deeper again. When patient awoke definitely, the pulse was 84, and 10 minutes after leaving the pneumatic chamber it was 76.

In this case we see that the narcosis was prolonged for 15 minutes, without giving rise to any symptoms of asphyxia; the complete anæsthesia was obtained in less than one minute, and the recovery to the normal state of sensibility took place instantaneously. Patient had no disagreeable feelings, no pain or asphyxia, which occur after the use of chloroform and ether.

Since then Prof. Pean performed a large number of important operations under anæsthesia, obtained after Paul Bert's method, with the most brilliant results. The ages of the patients operated upon were from 13 to 58 years. Anæsthesia was obtained in from 15 to 30 seconds, and was prolonged in one case to 26 minutes. The most difficult operations were performed, for instance: extirpation of mamma, resections of bones or nerves, (infraorbital) etc. In every case complete anæsthesia was obtained without preliminary symptoms of agitation, and sensibility returned in ½ to 1 minute after ceasing of the gas inhalation.

The eminent advantages of Paul Bert's method over chloroform and ether are, therefore:

1. Total absence of a stage of excitement at the beginning of anæsthesia.

2. Tranquility of mind of the operator, being satisfied that the dose of the anæsthetic will be precisely the same during the whole duration of the operation.

3. The rapid recovery of the normal sensibility, even after a long anæsthesia.

4. Absence of the consecutive vomiting and other disagreeable after-effects.

5. Finally,—and this is the main point—the absolute safety of the method.

It ought to be mentioned that at first, before being perfectly acquainted with

Paul Bert's method, several cases occurred where, during anæsthesia, contractions of the extremities were noticed. These symptoms seemed at first alarming to the surgeons, but soon it was learned that they were the consequence of the influence of nitrous oxide under insufficient pressure. In order to banish these symptoms it is sufficient, as Paul Bert stated, to raise the pressure in the pneumatic chamber some two or three centims, which can be done very easily. The observations, by Pean, of the over-pressure, vary from 15 to 22 centims. In some, but very rare cases, the over-pressure had to be raised to 26 centims to get anæsthesia with resolution. The great facility by which the pressure, and, consequently, the anæsthesia can be raised and deepened, is also a great advantage of this method.

THE EFFECTS OF MALARIAL POISONING ON THE DENTAL PULP.

BY J. A. KLUMP, D.D.S., M.D., HARRINGTON, DELAWARE.

[Read before the Pennsylvania State Dental Society, August 2, 1883.]

It is not my expectation in this paper to present to this society any special information with regard to the effects of malarial poisoning on the dental pulp, but to elicit a discussion of the subject. I will endeavor to suggest a few points, the consideration of which may interest and profit us.

We claim as our chief object the salvation of the natural teeth. The rapid advancement in dental science is most encouraging to us. Especially are the restorations of badly diseased teeth of to-day remarkable in contrast to our want of success in such cases a few years since. Our endeavors to place these organs in conditions most favorable to resist deleterious agencies are meeting with more success, and our methods are becoming more effective. The value of constitutional treatment is more appreciated, but is worthy of more attention than it has yet received. That something more than local treatment is required is consequently becoming more evident. Local treatment alone will, in many cases, prove a failure, but with general treatment combined, will give the desired result. There are cases where nothing but constitutional treatment will be effective. The subject of improving teeth of low vitality by putting into the system the elements in which such teeth are deficient, has been repeatedly discussed, and time and again have we witnessed such cases improve under this treatment; yet, in many instances, no benefit seems to accrue, and until we go deeper and take into account the important functions that preside over secretion, the normal performance of which is necessary for the assimilation of such elements, we may expect many failures. To look after the state of the nervous system, the blood, and the digestive organs, and have their functions properly performed, would be doing more, in many cases, for the health of the teeth than would be accomplished by administering the phosphates, etc., and risking their assimilation.

Especially should the nervous system receive attention. It has an enormous influence over the teeth, controlling circulation, secretion, and nutrition. Not only do general nervous derangements affect the highly sentient pulp of a tooth in general proportion to the nervous tissue involved, but, owing to its peculiar situation,—incased with a dense wall of dentine,—nervous phenomena which produce the slightest irregularities in the circulation will cause prominent symptoms of irritation here. The blood vessels are subject to dilatation, and the surrounding tissues, principally nervous, must suffer compression in proportion to the amount of congestion. Considering the fact that death of the pulp in the majority of cases is due to strangulation, it becomes essential in its conservative treatment to combat all causes predisposing to congestion. Malarial poisoning being productive of marked irregularities in the distribution of the blood supply, and, moreover, creating serious nervous disturbance, and tending to a general lowering of the entire organism, its influence should be combated, in view of its effect upon the teeth. Irritation of the pulp is frequently the initial symptom of malarial impression, and not infrequently is of sufficient severity to cause death of the pulp in sound teeth, which is a common occurrence in highly malarious sections. That death of the pulp may be due to malarial poisoning is assumed, because it occurs in subjects suffering from malaria, and when there is no other evident cause for the irritation ; and the majority of cases of pulp irritation under such circumstances yield promptly to early treatment with quinia. In the commencement of miasmatic fevers, it is not uncommon to have odontalgia of a neuralgic character, which is generally recognized by physicians as being of malarial origin, and they treat it as they would malarial pains of any part, by bringing about "cinchonism" as quickly as possible. We many times encounter cases of sensitive dentine of malarial causation, in which local obtundents have little if any effect. These cases are usually associated with general nervous excitability, and the mere touch of an excavator to the tooth will so unnerve the patient as to render an operation very unsatisfactory, if not impossible of performance. Here three or four grain doses of quinia, or the equivalent, of one of its alkaloids, given every four hours, until about thirty grains have been administered in anticipation of the sitting, will not only allay the sensibility of the dentine, but will produce such a quieting effect on the general nervous system that operations can then be performed with satisfaction to patient and operator. In these cases nothing but anti-malarial treatment will have much effect. The simple operation of capping is often, by the presence of malaria in the system, rendered very uncertain. This will account for the success of some practitioners in this operation, while others are ready to condemn it on account of its uncertainty. Between the month of June and the frosts of autumn, when this disturbing element prevails, we have, doubtless, all experienced its influence more or less in varying results from like treatment in different cases. In teeth successfully capped under favorable circumstances, trouble is subsequently excited by this agent.

In the personal experience of the writer, recently located in the malarial climate of Delaware, this has been forcibly demonstrated. In a tooth capped and filled in 1880 there was no discomfort experienced until the present summer, when, during an attack of remittent fever, there was an intense irritation of the pulp, which subsided in a few hours, cinchonism having been established in the treatment of the fever. The symptoms once recurred in a mild degree, coincident with the reappearance of positive symptoms of the malarial trouble. Case after case similar to this has come under my notice. A capped pulp, or the pulp of a filled tooth is especially liable to malarial disturbance—thermal changes doubtless assisting in a measure in exciting irritation. Or, the pulp being less vigorous on account of its artificial surroundings, yields more readily than in health. It is a recognized fact that congestion is liable to involve a weaker organ. When there is a congestive tendency, a trifling irritation only is necessary to determine it to a given point.

As to the manner in which malaria excites irritation in the pulp we can only speculate. We know that in subjects saturated with malaria the blood is found to have undergone a marked change ; the red blood corpuscles are diminished in number; the blood is thinner than normal, and pigment matter is frequently in such excess as to cause thrombi in the smaller capillaries. The walls of the blood vessels lose their tenacity, thus favoring the effusion of their contents. The function of the spleen, as a diverticulum for the blood is frequently interfered with, thus depriving the congested capillary system of the relief which a proper performance of the splenic function affords. The parasite which has been found in the red blood corpuscles of malarial patients may contribute to the formation of thrombi, or its presence may be capable of establishing organic disease of the pulp, as it is believed to excite disease of the kidney, liver, etc., by its mere presence within these organs. From the known facts as to the nature of malarial poisoning, it is probable that the circulation in the pulp must be influenced by it in no small degree. The contracted apex of the root of a tooth is highly favorable to the formation of a thrombus within the pulp chamber, while the blood pressure necessary for forcing its return from the pulp circulation would favor effusion into the pulp tissue—a result which we know would prove disastrous to a living pulp. The parasite may excite irritation from pressure if sufficient to occlude the blood vessels, or their presence as a foreign body may produce irritation of the sensory nerves sufficient to bring about extreme congestion.

It cannot be doubted that malaria has a deleterious influence on the pulp of a tooth and on the health of tooth structure generally, and it should certainly receive the importance it demands.

A DOCTOR says the best cure he knows for a cold is the old-fashioned sweat. "Take ten grains of quinine, a hot mustard foot-bath, a stiff glass of toddy." Jones believes in the remedy, but nine times out of ten he will forget the quinine and foot-bath.

ICE FOR TEETHING CHILDREN.

The pain of teething may be almost done away, and the health of the child benefited, by giving fine splinters of ice, picked off with a pin to melt in the mouth. The fragment is so small that it is but a drop of warm water before it can be swallowed, and the child has all the coolness for its feverish gums without the slightest injury. The avidity with which the little things taste the cooling morsel, the instant quiet which succeeds hours of fretfulness, and the sleep which follows the relief, are the best witnesses to the magic remedy. Ice may be fed to a three-months-old child this way, each splinter being no larger than a common pin, for five or ten minutes, the result being that it has swallowed in that time a teaspoonful of warm water, which, so far from being a harm, is good for it, and the process may be repeated hourly as often as the fretting fits from teething begin.—*Hall's Journal of Health.*

SOME of the conclusions of science would indeed be appalling but for their practical harmlessness. Thus, geologists assert that if the continents and the bottom of the ocean were graded down to a uniform level, the whole world would be covered with water a mile deep, so much greater is the depression of the ocean bed than the elevation of the existing land.

THE dentist of Mendocino City, Cal., suddenly threw off the garments of his trade, like Grindhoff in *The Miller and His Men*, and flamed forth in his second dress as a captain of banditti. A stage coach robbery was followed by a long chase in the hill country, involving much desultory fighting, in which the dentist was killed. "He had been unwell," said an apologetic speaker at his funeral, "and the doctor told him to take something, so he took the express box."

⇝SUBSCRIBE NOW FOR 1884.⇜

Please fill up the Blank herewith. Tear out and return with cash enclosed, or its equivalent in postage stamps. *See announcement for 1884.*

GIDEON SIBLEY,

Publisher Dental Practitioner,

THIRTEENTH AND FILBERT STS., PHILADELPHIA, PA.

Enclosed find 50 cents, for which please send me the *Dental Practitioner* for the year 1884.

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For Packing Hard Rubber or Vulcanite for Dental Plates.

To the Members of the Dental Profession:

GENTLEMEN :—

I am introducing to your notice a new process of packing rubber for Artificial Dentures, so that the disagreeable features of "waxing up," "boiling out," screwing down of flasks and soiling of hands are entirely overcome, while the time heretofore employed is lessened one-half, and the quantity of rubber and thickness of material so reduced that with but very little labor, after vulcanizing, the plate is ready for the mouth.

The rubber being of sufficient thickness, there is no excess of material to press the blocks apart in gum teeth, and there are no "dark joints" to look unsightly, and therefore no frail gums to fracture, as in the old way of pressure packing.

Where plain teeth are used and a pink rubber for the natural gums, the space in front is so covered with the pink that neither base plate [of red or black rubber] enters into each other; and the saving of material where pink is used will [owing to its expensiveness] pay for itself in a short time.

Where strength is given to weak points in the plate, a steel spring is inserted in the rubber and so protected from exposure that strength is secured without additional thickness of plate; one tooth, therefore, isolated, can be made as firm as if backed and supported by a metallic plate the old way. Also, plate teeth can be inserted with or without backing much more readily than by any known process.

In the feature of repair work, the ease and rapidity with which it can be done will commend itself to those who practice the old way.

Where weight is given to a lower plate, the addition of a heavy piece of block tin [curved to conform to the arch] is imbedded in the rubber and so protected from exposure that the plate presents only a rubber surface when finished—adding strength as well as weight.

The advantage of vulcanizing five or six sets of teeth at the same time in a two-flask vulcanizer will commend itself, both in time and fuel; therefore, where both time and fuel is an item, this process will meet a long-felt want.

Finally, the advantages of this work are so free from objection that when once presented must become of recognized utility.

☞ In the above circular I had in view of calling upon the profession in person or by agency. Allowing the time and expenditure, the additional cost would fall upon the dentist. Therefore, through this medium, the journals, I hope to reach a greater number at less cost to the dentist. And also give the fullest instructions with diagrams and explanatory notes, so that any ordinary operator in vulcanite or rubber work can perform the *packing* in a few trials with good results, while those that are proficient would have no trouble after the first effort.

The low price of two dollars [$2.00] for instructions will fall within the reach of all, and its worth is of that value every day in *repair work*.

Seven years of thorough trial, making as high as 21 sets of teeth a week, with only one student, should be convincive of the ease and rapidity of working this new process of *rubber packing*. Send P. O. Order or Draft.

Address—JAMES S. CHARLES, D.D.S.,
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NOTE.—No change of Vulcanizer or Flasks are required. The improvement is in the *mode* of *packing* only.

Philadelphia, Penn., Oct. 29th, 1883.

I have received instructions from Dr. J. S. Charles in his new process of getting up vulcanite plates; whereby much of the distasteful manipulations are dispensed with. The claims the Doctor sets forth in his circular are all sustained, and I cordially recommend the process to any one desirous of saving themselves much trouble.

THEODORE F. CHUPEIN, D.D.S.,
1408 Pine Street.

Philadelphia, Pa., Nov. 28, 1883.

I have seen Dr. J. S. Charles' process of packing Rubber Plates, and must say that a great deal of time is saved by this process. I doubted his ability to vulcanize six cases in a two flask Vulcanizer. But these doubts vanished when I saw his plan, *which is a good one.*

S. ELDRED GILBERT, D.D.S.,
1237 Arch Street,
Instructor at Philadelphia Dental College.

—DENTAL FURNITURE.—

THE S. S. WHITE IMPROVED PEDAL LEVER DENTAL CHAIR.

In best quality Green, Crimson or Maroon Plush,	$180.00
In either color of Finest Plush, puffed with Plush, trimmed with Silk Cord, with Wilton Carpet,	200.00
In Fancy Upholstery, puffed with Plush, and trimmed with Silk Cord, with Carpet to match,	210.00
In Crimson Plain Turkey Morocco or Leather,	180.00
In Embossed Turkey Morocco, Tan or Crimson, puffed with Plain Morocco, edged with Cord, Carpet on Apron and Foot-rests,	210.00

The Improved Wilkerson Dental Chair

In best quality Green, Crimson or Maroon Plush,	180.00
In either color of Finest Plush, puffed with Plush trimmed with Silk Cord, with Wilton Carpet,	200.00
In Fancy Upholstery, puffed with Plush, and trimmed with Silk Cord, with Carpet to match,	210.00
In Crimson Plain Turkey Morocco or Leather,	180.00
In Embossed Turkey Morocco, Tan or Crimson, puffed with Plain Morocco, edged with Cord, Carpet on Apron and Foot-rests,	210.00

The Morrison Dental Chair

In best quality Green or Garnet Plush or Plain Morocco,	130.00
In real Morocco, Embossed,	140.00
In Finest quality Green or Garnet Plush puffed and trimmed with Silk Plush	150.00
The Students Morrison Chair, in Corded Material,	105.00
Spittoon Attachment. extra,	4.00

The Archer Dental Chair,

No. 2 Open or closed arms, Green or Crimson, Figured Plush,	57.00
The same in Green, Crimson or Maroon, Plain Plush	60.00
Footstool for above,	12.00
Archer Iron adjustable, Dentist Chair and Footstool No. 7, Crimson or Brown Rep.	32.00
With Green or Crimson Carpet,	35.00
" Green or Crimson Figured Plush or Leather,	36.00
" Green, Crimson, Maroon or Brown Plain Plush,	40.00
Spittoon, extra,	7.00
The S. S. White Bracket with Allen Table and Lamp,	25 00
Morrison Dental Bracket,	25.00
The Automatic Cone-Journaled, adjustable Dental Bracket, invented by W. S. Snow, Nickel Plated,	22.50
Students' Adjustable Bracket,	10.00

CUSPADORS FOR DENTAL CHAIRS.

No. 1, Heavy Spun Brass. Nickel plated, including Gold Catcher,	5.00
No. 2, Light Spun Brass, Nickel plated, including Gold Catcher,	1.50
No. 4, Spun Brass Nickel plated, including Gold Catcher,	4.00
Universal Cuspador Clamp, will hold all sizes of Dental Cuspadors, and is adapted to all Dental Chairs, Nickel plated, price,	3.00

On all orders accompanied with the Cash amounting to from $50 to $150, a discount of 5 per cent. will be allowed; for $150,00 or over, 10 per cent.; excepting Precious Metals, or goods upon which a discount has already been allowed, as Teeth, etc., at quantity rates.

For Sale by GIDEON SIBLEY,
13th and Filbert Sts., Philad'a, Pa.

FRENCH'S SELECTED DENTAL PLASTER.

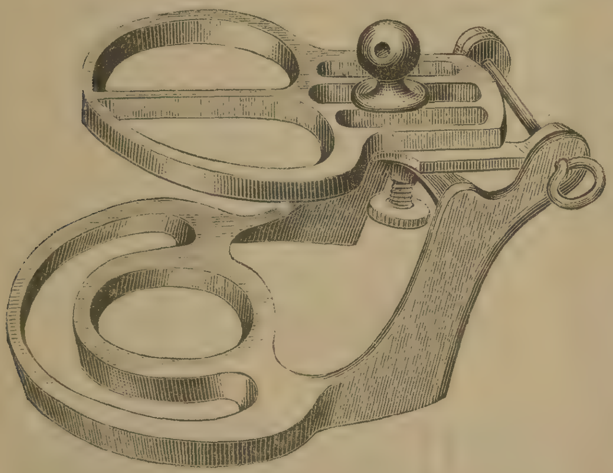
6 quart, air-tight can	$ .70
12 “ “ “	1.15
16 “ “ “	1.45
24 “ “ “	2.00
Quarter barrel	1.60
Half “	2.50
One “	3.50

When sent by freight, porterage extra.

In ordering, state whether you wish *Impression* or *Slow Setting*. The slow setting is preferable for models and flasking.

We always send *Impression Plaster* unless the other kind is ordered.

NO. 1 ARTICULATOR



Our No. 1 Articulator, which is here represented, is made of Brass, cast in dry sand moulds, carefully fitted in all its parts, and dipped, giving it a bright finish, making a very handsome and useful tool for the Laboratory.

PRICE, - - $1.00.

POSTAGE, 10 CENTS.

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DENTAL DEPOT,
13th & Filbert Sts., Phila., Pa.

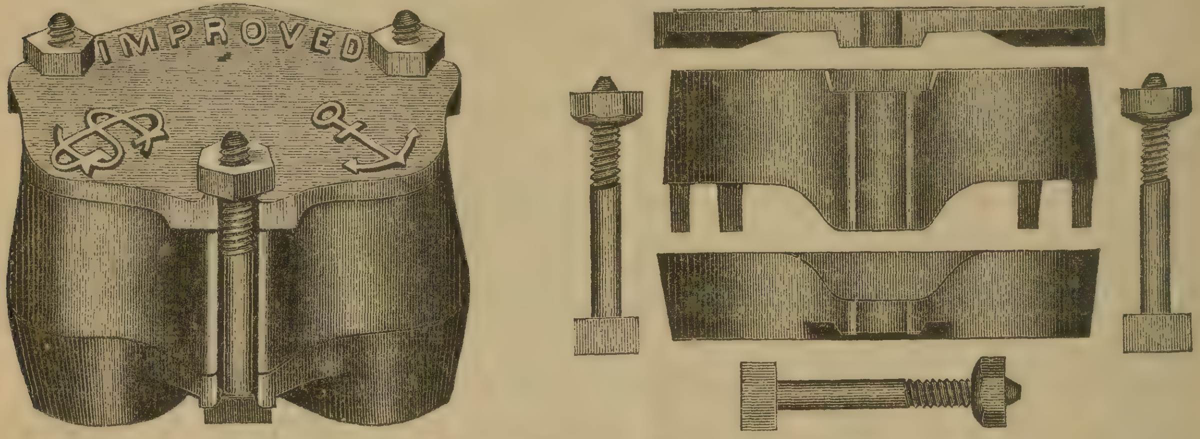
SECOND-HAND
AND
SHOP-WORN GOODS

ONE OILED WALNUT CHAIR (upholstered in Crimson Plush), footstool and spittoon stand, in fair condition	$20.00
A NEW 75-GALLON GASOMETER, Galvanized Iron, and fitted with iron pipes inside; also a generator, retort, 5 feet rubber tubing, and mouth-piece, all new (used but once)	25.00
One “Snow's Standard Saliva Ejector,” complete, (slightly shop-worn)	13.50
One OILED WALNUT SPITTOON STAND, S. S. WHITE PATTERN, (Oval) Marble Top, with Glass Funnel, as good as new, (original price, $22.00)	8.00
One ARCHER NO. 2 SPITTOON STAND, OILED WALNUT, slightly shop-worn	7.00
One S. S. WHITE WALL CABINET (in good condition)	15.00
One S. S. WHITE EXTENSION BRACKET, NO. 2, good as new (Original price, $18.00)	10.00
One SNOW & LEWIS EXTENSION BRACKET, Bronze, with Drawer, shop-worn (original price, $12.60)	8.00
A Job lot of H. C. COY'S PATENT NOISELESS HAND LATHES with two Chucks, each	3.00
One SHOW CASE, HEAVY PLATE GLASS, 17½ inches long, 12½ inches wide, 9½ inches high, equal to new	6.00
One S. S. White Wooden Chair, (Illustrated in S. S. W. Catalogue, 1865), covered with green plush, footstool, a low operating stool and spittoon, in fair condition,	30.00

Boxing on above goods Extra.

GIDEON SIBLEY,
13th and Filbert Streets, Philadelphia, Pa.

IMPROVED ANCHOR FLASK



The above cut represents a Flask of our own make, it being greatly improved over the old style Anchor Flask in many respects, as follows:

It is larger in size, and much thicker, weighing nearly two-thirds more.

It has much longer guides, and is so constructed that it is impossible for the bolts to slip, thus making it the most perfect and convenient flask in the market.

Any Vulcanizer measuring 3⅞ inches in diameter, inside, will admit this flask easily.

PRICE, MALLEABLE IRON,	**$1.00,**	**postage,**	**25 cents.**
EXTRA BOLTS, PER SET,	**.25**	**"**	**free.**
WRENCHES,	**.10**	**"**	**"**

Tees' Lilliput Furnace.

FOR CONTINUOUS GUM WORK.

Also for making blocks for plate or rubber work from plain teeth and for gum enameling joints of rubber blocks after they are ground and articulated.

The furnace is 15 inches high, 12 inches wide and 8 inches deep, coke fuel. It will fuse Continuous Gum Body in Winter weather in forty minutes after the fire is lighted. Price, with appurtenances and book of instructions, $31, boxed.

TEES' CONTINUOUS GUM BODY AND GUM ENAMEL.

Improved during the past year. The Body will temper in thirty minutes in a cool muffle, and the Gum Enamel in one hour and a half. Warranted not to check. Price, Body, $1.50 per oz. Gum Enamel, Pale, Medium and Dark, $1.25 per ½ oz.

Also Body and Gum Enamel for *mending*, at the same prices. These fuse at a slightly lower temperature.

AMBLER TEES, D.D.S.,
548 N. 17th St., Phila.

PRICE LIST
—OF—
GOLD FOILS

KEPT CONSTANTLY IN STOCK.

	⅛oz.	½oz.
"R. S. Williams" Soft & Cohesive, Cylinders, Style "A,"	$4.00	$15.00
"Hood & Reynolds" Soft & Cohesive Cylinders, Style "A,"	4.00	15.00
"J. B. Dunlevy's" Soft and Cohesive,	3.75	14.00
"Nickold's" Improved Soft,	3.75	14.50
"S. S. White's Quarter Century,"	4.00	15.00
" "Globe,"	4.00	15.00

Other Foils furnished at Manufacturers' prices when desired.

F. R. Faber, D.D.S. C. F. Faber, D.D.S.

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Mechanical Laboratory,
1205 Chestnut St.

Dental Mechanism Exclusively of the FIRST CLASS.

Instructions given in Continuous Gum Work.

MISCELLANEOUS PRICE-LIST.

Articulators No. 1...		$ 1.00
Ammonia Fused and Granulated (5lb Boxes)		1.50
Sibley's Gold and Platinum Alloy,	per ounce	3.00
Caulk's "White" "	"	3.00
Dr. Flagg's "Standard" "	"	6.00
King's "Occidental" Amalgam	"	3.00
Pierce's "	"	4.00
Arrington's "	"	3.00
Lawrence's "	"	3.00
Townsend's "	"	2.00
Samson Rubber	per pound	3.00
Extra Elastic Rubber,	"	3.00
Bow Spring "	"	3.00
Whale Bone "	"	3.00
Doherty's Rubber, 1 and 2	"	2.50
" " 1 and 2, (Weighted)	"	4.00
" Black "	"	2.50
English Pink Shade No 1	"	10.00
" " " 1 X	"	7.00
Gutta Percha Base Plate	"	2.50
Acme Cement	per package	1.50
Weston's Insoluble Cement	" "	2.00
Caulk's Diamond "	" "	1.00
Pierce's Phosphate of Zinc	" "	2.00
Agate Cement	" "	2.00
Caulk's Hydraulic Pebbles	" "	3.00
Houghton's "Os Artificial"	" "	1.00
S. S. White's Dental Engine—14 points		50.00
Johnson Bro s " "	"	40.00
Bonwill's " "		44.00
Gilling Twine	½ ounce skeins	.10
Floss Silk, plain	per dozen	1.25
Rubber Dam, Medium	per yard	1.50
" " Thin	"	1.00
Shellac Varnish	per bottle	.25
Sandrach "	"	.25
Liquid Silex and brush	"	.25
Re-distilled Mercury	per ¼ pound	.50
Bibulous Paper (Japanese)	" 100 sheets	.50
Absorbent Cotton	2 ounce pkgs	.20
Spunk	per ounce	.20
Yellow Impression Wax	½ lb Boxes	.38
" Base plate "	"	.50
Modeling Composition	per pound	1.25
Lands Air Chambers	per dozen	.50
Anchor Flasks (Iron)..		1.00
Whitney " "		1.00
Hayes " "		1.00
Star reversible "		1.25
Automatic Mallets, Snow & Lewis, N. P.		10.00
" Plugger points	per dozen	3.50
Excavators (Blued handle)	"	2.00
Burs and Drills " "	"	2.00
Pluggers, Chisels, Scalers, and Burnishers 3-16 in. blued handles, per dozen		4.00
Barbed Nerve Extractors	"	.75
Foil Shears 8 inch Japanned Handle		1.00
Foil Carrier and Plugger combined N. P.		1.25
Foil Tweezers	"	.60
College Plyers	"	1.00
Pocket Lancets, (1 blade), Shell Handle		.75
" " " Rubber	"	.50

Lancets, (fixed blade), Ivory Handle	.75
" " Ebony "	.50
Chip Blowers, Rubber bulb.	1.00
Syringes, Hard Metal, N. P.	1.25
Mouth Mirrors (Plain) Ebony Handle	1.00
" " Magnifying " "	1.50
Nerve Paste, per bottle	.35
Annealing Lamps, Nickle-plated tops	.40
Emery Strips, per gross	.50
Leather Lathe, Cords ¼ inch per foot	.03
Bill Heads No 1 per 100	.60
" " " 2 "	.40
Robinson's Fibrous Textile Filling and Lining, per ½ ounce	2.50
Felt Cones.	20 and 40
" Wheels	15 " up
Brush "	10 " up
Corundum Wheels	6 " up
Rubber Dam Forceps, per pair	2.50
Extracting " N. P. "	2.25
" Forceps Hurd's Pattern, N. P. per pair	3.25
Union Felt Wicks	.06
Star Rubber Dam Punch, N. P.	1.50
Rubber Dam Weights "	.50
" " Clamps "	60 and up
Hard Rubber and Corundum Disks	.25
Corundum Disks, per dozen	2.75
" Points, not mounted, per doz	.75
" " " "	1.50
Corrugated Soft Rubber Disks, each	.10
" " " Points per dozen	.75
Wood Polishing Points, ass'd per 100	1.25
Rubber Scrapers and Chisels, each	.25
" Files, Steel Handles 4½ inch	.20
" " " " 5¼ "	.25
" " " " 6 "	.30
" " Double End 7½ "	.28
" " " " 8 "	.35
" " " " 9 "	.50
" " Fish belly 7½ "	.42
Double End Rubber Rifflers, each	.20
Seperating Files, Earnest, per dozen	1.00
Plug Finishing Files, Double End, per doz	2.40
" " " " " "	2.00
Biscuspid Files, per dozen	2.00
Molar Files, Double curve, Feather edge	.30
" " " "	.22
" " " single "	.18
Stump and Pivot Files	.18
Wood Plugging Mallets	.25
Mercury Holders, Double top	.50
" " Single top	.25
Wedge Cutters, N. P.	2.25
Engine Cords	.10
Nerve Broach Holders	.25
Pallette, for mixing Cement (Porcelain)	.20
" " " French plate	1.00
Bench Brushes, Bone Handle	.35
Wax Spatulas	.30
" Dr. Beal's pattern	.40
Soldering Tweezers	.10

Floss Silk. We have just received a lot of Floss Silk, which is far superior to any in the market. The Spools contain 24 yards, whereas all others are but 12 yards. Give it a trial, and you will use no other.

PRICES.	**Plain 20 cents per Spool,**	**$2.00 per Doz.**
	Waxed 25 " " "	**$2.50 " "**

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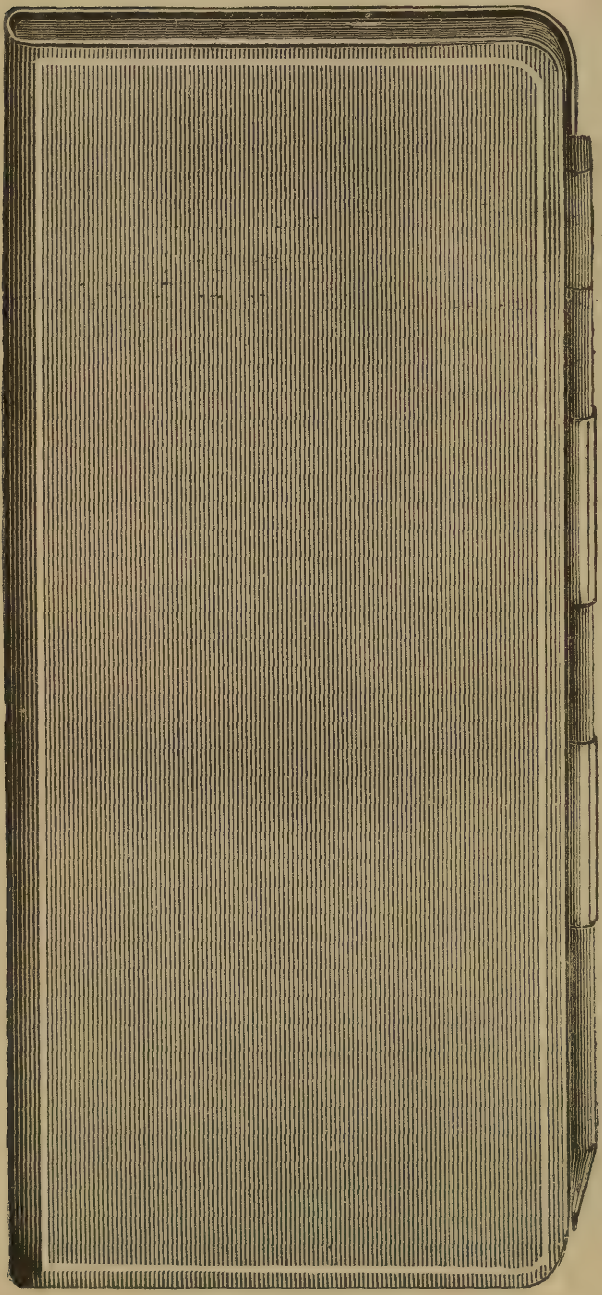

Month of 1883.

THURSDAY,	A M	P M	Operation
Mrs. Jones,	9	......	*G. Flg.*
Frank Swift,	......	2	*Treat.*
Miss Mason,	10	......	*Imp.*
Mrs. Brown,	......	3½	*Artic.*
Mr. John Smith,	11	......	*Fin G.*
Mr. Johnson's Child,	......	4	*Reg.*
Mrs. Burnes,	......	......	*Am. Flg*
......	......	......	......

FRIDAY	A M	P M	Operation
Mrs. Jones,	9	......	*G. Flg.*
P. E. Small,	10	......	*Imp.*
Miss Mason,	12	......	*Plate.*
Mrs. Roe,	......	2	*Clea'g*
Mr. Thos. Clark,	......	3½	*Bon. Cr.*
Mrs. Hayes,	......	4½	*Ext.*
Frank Swift,	......	5	*Treat.*
......	......	......	......

SATURDAY,	A M	P M	Operation
Work in Laboratory,	9	......	......
" " "	10	......	......
Mrs. Brown,	......	12	*Plate.*
Miss Horton,	......	2½	*Exam.*
Mrs. Burnes,	......	3	*Fin A*
Mr. Johnson's Child,	......	4	*Reg.*
Gen. Thomas,	......	4½	*Plate.*
......	......	......	......
......	......	......	......

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The NEATEST THING of the kind ever offered to the Dental profession, can be CARRIED IN THE VEST POCKET, arranged for appointments for eight hours of every working day in the year. Blank pages in back for memoranda. By using this little book, you have your appointments ALWAYS WITH YOU. Bound in red Russia leather with pencil attached. Price 50 cents. With your name neatly printed in gold on cover, 75 cents.

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EMERY STRIPS,

FOR CUTTING DOWN AND POLISHING FILLINGS.

These strips are put up in gross packages, in six different grades of Emery and Crocus, on strong, thin cloth.—No. FF Emery, finest.—Nos. 0, 00, and 100 are medium.—No. $\frac{1}{2}$ coarsest. Also, Crocus for finishing, and assorted, *i. e.*, some of all grades. Cut represents full size of packages—except in length—length of strips, $9\frac{3}{4}$ inches.

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FOR FINISHING FILLINGS.

These strips are made of a thin, strong paper prepared especially for the purpose, and assorted as to fineness of material covering the finishing surface. Put up only in packages containing one gross. Illustration shows full size of package. Length of strips 9 inches.

FRENCH STRIPS,

FOR POLISHING FILLINGS.

These strips are made of a very fine, thin and especially strong French paper, coated on one side with an unequalled polishing material. For the final finish of an approximal filling these strips have no rival. Put up in gross packages, as illustrated above. Length of strips, $8\frac{1}{4}$ inches. These three styles of strips have proven by far the most *desirable* and *economical* articles for the purpose yet discovered.

Price, Either Style, 50 cents Per Gross.

☞ TRADE SUPPLIED. ☜

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MANUFACTURED BY

EUGENE DOHERTY,

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THE STRONGEST & MOST UNIFORM RUBBER MANUFACTURED.

It is the toughest and most durable Rubber made. Vulcanizes same as ordinary Rubber.

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MANUFACTURER OF ALL KINDS OF

Dental Rubbers and Gutta Perchas.

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No. 2 Rubber, per lb.	2 50
Samson Rubber, per lb.	3 00
Black Rubber, per lb.	2 50
Flexible or Palate Rubber, per lb.	2 75
Gutta Percha for Base Plates, per lb	2 50
Vulcanite Gutta Percha, per. lb.	3 50

No. 1 Weighted or Amalgamated Rubber, per lb.	$4 00
No. 2 Weighted or Amalgamated Rubber, per lb.	4 00
Black Weighted or Amalgamated Rubber, per lb.	4 00
Weighted Gutta Percha, per lb.	4 00
Adamantine Filling or Stopping,	

NOTE.—The above Rubbers and Gutta Perchas will be furnished in pound or half pound packages to any dentist in the country on receipt of price, and stating that they cannot get them at the Dental Depots in or near their place of business. Circulars giving full instructions how to use all of my Rubbers and Gutta Perchas, will be found in each box or package with the article ordered.

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RECOMMENDED FOR ITS

PURITY,
PERMANENCY,
PLASTICITY.

MANUFACTURED BY

DRS. PEIRCE,
PIKE, AND
PHREANER.

1415 WALNUT STREET, PHILADELPHIA, PA.

Price, $4.00 per oz. Put up in ounce and half-ounce packages.

This amalgam is made from strictly pure materials, and from the formula of Prof. C. N. Peirce. It was first made by Dr. Peirce for use in his own practice, and has become deservedly popular with those who have been for some years constantly using it. Its color, edge-strength and toughness render it one of the most desirable plastic filling materials, while shrinkage or expansion are not perceptible. Each package of amalgam will contain a piece of specially prepared "Asbestos Felt," with directions for its use as a capping for exposed pulps, or as a non-conducting septum between sensitive dentine and metallic fillings.

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Prepared by

DR. C. N. PEIRCE.

The properties of this Cement have been well tested, and not found wanting. It does not deteriorate with age. Directions accompany each package. It can be procured of dealers in dental supplies, and in quantity of the S. S. WHITE DENTAL MF'G CO., JOHNSON & LUND, and of the MANUFACTURER, 1415 Walnut Street, Phila.

PRICE, PER PACKAGE, $2.00. **LIBERAL DISCOUNT TO THE TRADE.**

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All Departments of the University are open to students entering the Dental Department, without additional charge. The lectures in general Anatomy, Physiology Chemistry, and Surgery are attended in common with the medical class. The Dental Specialties are taught by a corps of four professors, who are practicing dentists of large experience.

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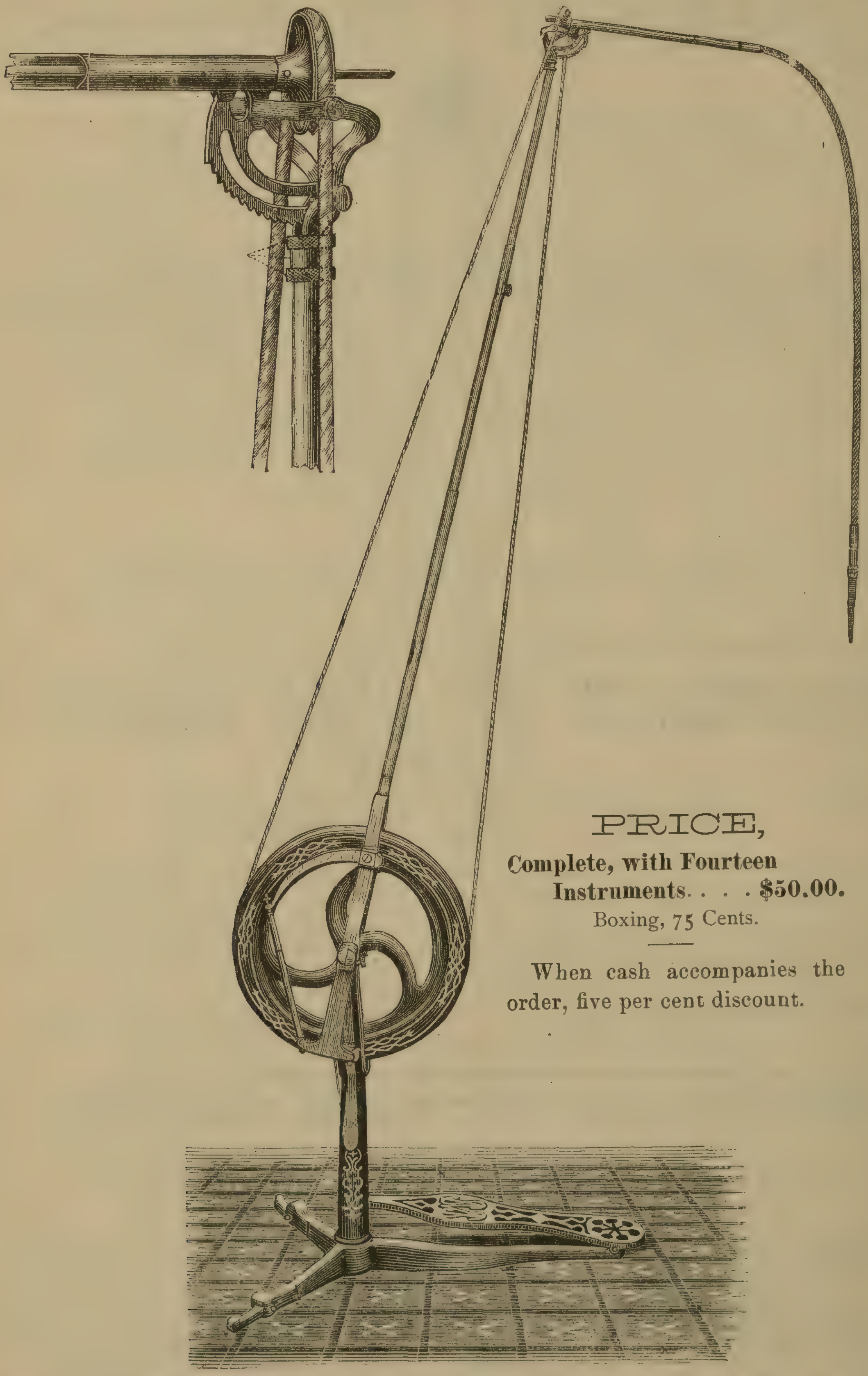

PRICE,

Complete, with Fourteen Instruments. . . . $50.00.

Boxing, 75 Cents.

When cash accompanies the order, five per cent discount.

We can furnish the above with the Universal "Register" Hand-Piece, instead of No. 6, when desired.

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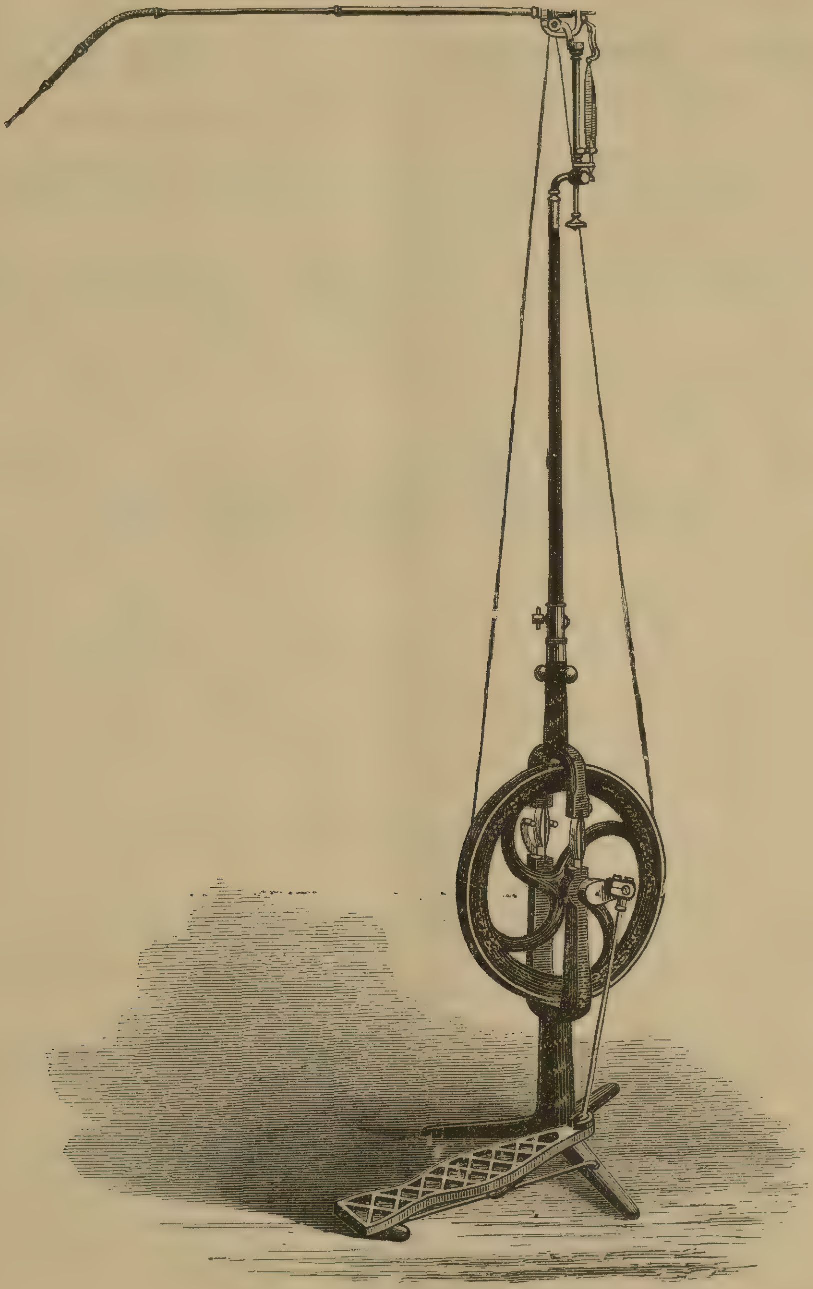
The JOHNSTON DENTAL ENGINE.



PRICE.

Complete with 14 Instruments,..............................*$40.00.*

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WATT'S IMPROVED METAL.

BETTER THAN ANY IN USE!

Six Ingots to the Pound. ***Per Ingot, $1.00.***

Printed Instructions with each Ingot.

This metal is far superior to the well-known Watt & Williams metal. It is the result of diligent research, aided by abundant leisure, and long experience in the science of metallurgy.

Watt's Metal is stronger and runs sharper than any in use, while it withstands chemical action within the mouth better than 18 carat gold.

It has no equal for lower plates, gives a much better fit than rubber, celluloid, or gold, and is a good conductor of heat and electricity. Weight is often advantageous; but if shrinkage is very great a base plate of the metal may be made, and the teeth attached to it with rubber or celluloid. Most beautiful upper or lower dentures may be thus made, and no other work has greater durability

Molds may be made in almost any flask, but a glance at the cut of the Watt Flask will persuade any one to buy it who intends to use the work.

Ask your Dental Depot for it, or send to

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KING'S OCCIDENTAL AMALGAM.

PRICE REDUCED TO $3.00 PER OZ.

5 oz. at one time, $2.75 per oz.; 10 oz at one time, $2.50. per oz.

This Amalgam has been before the profession in Ohio and Western Pennsylvania for some years, and all who have used or tested it, agree that it has merits over any other Amalgam in the market.

The process of manufacture differs from that of other Amalgams, and

BY A NEW INVENTION

Dr. King is enabled to obtain better results, both in regard to COLOR, SHRINKAGE and EXPANSION, than is obtained in any other alloy in the market.

Test for color consists of sixty grains of Sulphuret of Potassa, dissolved in one ounce of water. Amalgam plugs to be left in this solution twenty-four hours or more. The Occidental will remain bright after this test, and we know of no other Amalgam, at even double the price, but that will discolor. All who would use the best should buy it.

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1883

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STOCK OF DENTAL GOODS,

Comprising

DENTAL CHAIRS, ENGINES, LATHES,
BRACKETS, GAS APPARATUS,
SPITTOONS, VULCANIZERS.

WHITE'S, JUSTI'S AND SIBLEY'S

TEETH.

We can recommend the last-named, as being the best $1.00 Tooth manufactured.

All our Goods will be found strictly reliable, and at Manufacturers' lowest rates.

—ALSO—

Agent for Subscriptions to the "DENTAL PRACTITIONER," a monthly Journal.
Price FIFTY CENTS per Year.

Address all Orders for Goods, and Subscriptions to the "Dental Practitioner," as above.

PROMPT ATTENTION GUARANTEED.

CAULK'S FILLING MATERIALS.

PRICE

Two Colors,

Grey & Yellow

$2.00

Per Package.

CAULK'S

TRADE
DIAMOND
MARK.

CEMENT.

Price, $2.00

PRICE

One Color,

Grey, Yellow

Medium, Light,

$1.00

Per Package.

THIS COMPOUND NOW STANDS WITHOUT A RIVAL.

From Two to Four Years' Test by Leading Dentists Throughout the World, has Proved it to be all that has been claimed for it.

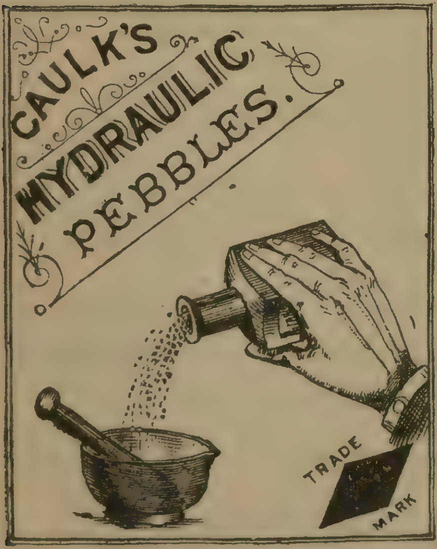
Fillings that have been Standing in the mouth OVER three years, in comparison with other plastic material in the market, show not only its SUPERIORITY, but it has proved to be *more insoluble* than many of the so-called insoluble cements. We have increased the quantity fully one-third, and all bottles are lettered with **"Caulk's Diamond Cement."**

CAULK'S PAR-EXCELLENCE ALLOY (Gold and Platina.)

With one exception, we were the first to manufacture an Amalgam containing Gold and Platina, although we did not call it such, simply our trade name, "Par-Excellence Alloy," which fully expresses the superiority of this combination of metals over others. It has always contained the requisite quantity of these precious metals, in conjunction with Silver and Tin, mixed upon scientific principles, in their proper chemical relations to each other, to make it just what it has long since proven to be—the best Alloy for filling teeth in the market. The large and increasing sales during the past few years, have conclusively demonstrated this fact. **Price, $3 per oz., put up in 1 oz., 1-2 oz. & 1-3 oz. packages.**

CAULK'S WHITE ALLOY (For Incisor Teeth.)

This Alloy is made expressly for front teeth, is of a peculiar grayish-white color, which will retain its brightness under all circumstances. Price same as Par-Excellence Alloy. Two ounces, one of each, for $5.00.



Sold at all Dental Depots.

Caulk's Hydraulic Pebbles.

This Cement differs from others, it being in the form of pebbles or granules. It is a chemical combination of some of the constituents of the Natural Tooth, and when properly manipulated has the bony-like characteristics of such materials. It is harder, tougher, and stronger; resists the fluids of the mouth to a greater degree, and after *one year's trial* is more of an *insoluble compound* than most cements have proved to be.

Its *hydraulic* qualities render it invaluable for setting pivot teeth. It is so pliable that it can be moulded or shaped into various forms, and when crystalization is complete, can be carved and polished, same as the sculptor does his marble.

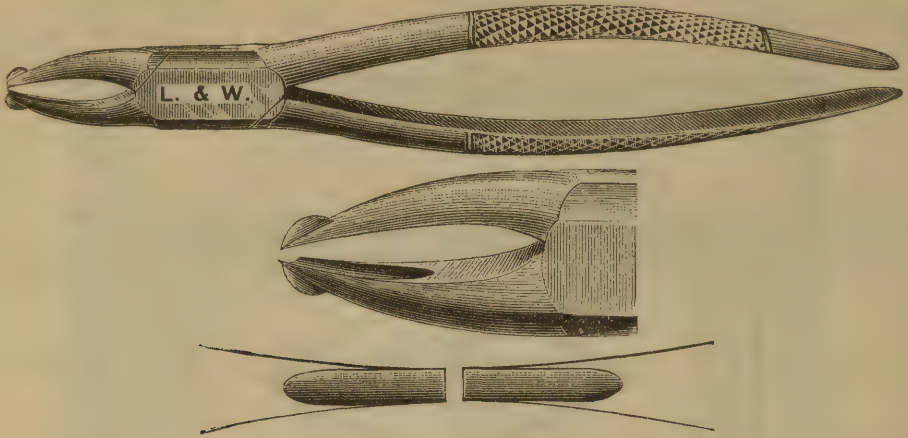
Price, large package, $3.00, small package, $1.50.

CAULK'S DIAMOND POINT STOPPING.

The Stopping is put up in *sealed envelopes*, and the Pellets and Cylinders in *sealed boxes*, each bearing a fac simile of our signature.

PRICE, in ⅛, ¼ and ½ ounce packages, per ounce, $4.00.

L. D. CAULK,
MANUFACTURER AND PROPRIETOR, CAMDEN, DELAWARE.



O. H. BRIGHAM'S

EXTERIOR LANCE FORCEP.

We quote DR. BRIGHAM'S explanation of manner in which his FORCEP is used:—"It is placed on the crown, and opened wide enough to go outside of Root and Process, then pressed in place and Root extracted, breaking no process, except what is included within the beaks. Thus freeing the cavity from all fractured process, leaving the mouth to heal much sooner."

Octagon Joint, nickel-plated, per pair, $3.00.

LUKENS & WHITTINGTON,
DENTAL INSTRUMENT MANUFACTURERS,
626 Race Street, Philadelphia, Pa.

DENTAL FILES.

J. M. EARNEST,
MANUFACTURER OF
DENTAL FILES,
OF ALL DESCRIPTIONS, WARRANTED EQUAL TO THE BEST MADE.
Usual Discount to Wholesale Dealers.

FACTORY: No. 524 Sargeant Street, Philadelphia, Pa.

LAWRENCE'S AMALGAM.

This Amalgam has received the endorsement of the profession at large for nearly forty years, which would seem to render any remarks as to its excellence superfluous. Price, $3.00 *per oz.*

Purchase only of reliable dealers, their agents, or of the inventor and ONLY manufacturer,

AMBROSE LAWRENCE, M.D.
No. 476 Columbus Ave., Boston, Mass.

QUINCY DENTAL DEPOT,

Quincy, Illinois.

All the Leading **DENTAL GOODS** kept constantly in Stock,

COMPRISING

Chairs, *Engines,* *Forceps,*
Brackets, *Lathes,* *Pluggers, &c.*
Spittoons, *Vulcanizers,*

THE VARIOUS BRANDS OF

GOLD FOILS, ALLOYS, AMALGAMS, CEMENTS,
STOPPINGS AND FILLINGS OF ALL KINDS.

RUBBER, CELLULOID PLATES, GUTTA PERCHA,
MODELING COMPOUND,
PLASTER OF PARIS, ETC.

Also, a large and varied Assortment of

THE THREE LEADING BRANDS OF TEETH,

White's, Justi's,
Sibley's.

The large and increasing sales of the last-named make of Teeth, is sufficient to guarantee their superiority over all others of similar price. By a large number of the Profession, they are considered equal to any in the market.

PROMPT ATTENTION TO ALL ORDERS GUARANTEED

DURANT & OEHLMANN,
QUINCY DENTAL DEPOT,
518 Hampshire Street, Quincy, Ill.

Agents for subscriptions to the DENTAL PRACTITIONER for 1883.

1 oz. Troy, $3.00.

SIBLEY'S

TRADE GS MARK.

GOLD AND PLATINUM ALLOY.

This Alloy is prepared under the supervision of an eminent analytical chemist, which enables us to guarantee the chemical purity of the metals used.

Having been subjected to the severest tests before offering it to the Dental Profession, it has been demonstrated that it will not shrink or expand, nor discolor in the mouth, and can be used in the Front Teeth with better results than any other Filling except Gold.

PRICES:

1 Oz., $3.00, 2 Ozs., $5.50, 4 Ozs., $10.00.

Manufactured by

GIDEON SIBLEY,
DENTAL DEPOT,
13TH & FILBERT STREETS,
PHILADELPHIA, PA.

CARD.

IF you use other alloys and they expand, causing your patient to return, with severe pain in the tooth filled,
TRY **Sibley's Alloy,** *which will not.*

IF the alloy you use shrinks, thus allowing the fluids to enter the cavity, and the decay to go on as freely as before filling,
TRY **Sibley's Alloy,** *which will not.*

IF, in using other alloys, you find that they discolor in the mouth,
TRY **Sibley's Alloy,** *which will not.*

If you want a Reliable Article, try SIBLEY'S GOLD & PLATINUM ALLOY.

We Guarantee Satisfaction.

Put up in 1-oz., 2-3 oz. and 1-3 oz. Packages. **PRICE, $3.00 PER OUNCE.**

SIBLEY'S DENTAL FORCEPS.

G. SIBLEY, PHILA.

These FORCEPS are of excellent finish—NICKEL PLATED. Their adaptation to both tooth and hand is unsurpassed. The best quality of steel is used in their manufacture, and the greatest care exercised in tempering them. Any Forceps broken, with proper use, within one year from the date of purchase, will be exchanged. **SEND FOR ILLUSTRATED CATALOGUE.**

Price, per Pair, Nickel Plated. - - - - - $2.25.
Hurd Pattern Spring Forceps, per Pair, Nickel Plated, - - 3.25.

GIDEON SIBLEY,

13TH AND FILBERT STS., PHILADELPHIA, PA.

HOOD & REYNOLDS,

DENTAL DEPOT,

74 Tremont Street, Boston, Massachusetts,

MANUFACTURERS OF

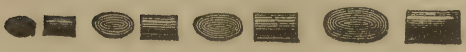
Gold Foil, and Dealers in All Kinds of Dental Goods.

GOLD CYLINDERS.

The Round Cylinders are mostly used for old style wedge filling.

We sell ten times as many Flattened Cylinders as we do of all the rest.

STYLE A,
Flattened.



Nos. ½ 1 1½ 2

STYLE A,
Loose, and can be used as Pellets.

Nos. ½ 1 1½ 2 3

STYLE B,
Loose, but more compact than Style A.

Nos. 1 2 3 4

STYLE C,
Compact, but not hard; used as Cylinders only.

Nos. 2 3 4 5 6

These numbers are to denote that No. ½ is a half sheet of No. 4 Gold Foil, cut into strips and rolled into cylinders; No. 1, one sheet; No. 1½, one sheet and a half; No. 2, two sheets, etc.
Two Patents Sept. 19, 1876. Patent Sept. 25, 1876. Patent April 17, 1877.

These cylinders are made from Soft Foil, otherwise called Accommodation Foil, and can be made cohesive by annealing. The advantage over sheet foil is, that they are ready for use, and therefore save the time consumed in preparing foil; also loss in scraps. As they are made from Soft Foil, and cut by machinery into strips, and then rolled into cylinders, without any handling with the hands, they are in the most favorable condition for use.

In making these cylinders, our best 1000 Gold Foil is used.

PRICE LIST.

CYLINDERS AND FOIL.

Per ⅛ ounce	$ 4.00
" ½ "	15.00
" 1 "	30.00
In 2 ounce lots, per oz.,	29.00

GIDEON SIBLEY,

DENTAL DEPOT

S. E. Cor. 13th and Filbert Sts., Phila., Pa.

TRADE—GS—MARK.

—MANUFACTURER OF—

SUPERIOR ARTIFICIAL TEETH.

RELIABLE IN STRENGTH AND ADAPTABILITY.

PERFECT IN SHADE, AND LIFE-LIKE IN APPEARANCE.

UNEQUALED IN QUALITY AND PRICE.

—Send for Prices by the Quantity—

In ordering from Dealers be sure and specify Sibley's Teeth! *See that all Gum Sections bear our Trade Mark, as above.*

ALL THE LEADING DENTAL GOODS KEPT CONSTANTLY IN STOCK.

GIDEON SIBLEY,

13th and Filbert Streets, Philadelphia, Pa.

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